

midday interval; a fourth works from 8 A.M. to 8-30 P.M., also without an interval; and a fifth from 5 A.M. to 8 P.M., with an interval of 2 hours in the middle of the day. In the cotton mills of Bengal, as in the jute mills there, the hours of work are largely determined by the fact that, where Bengali workmen are employed, an interval of at least one and a half hours, and preferably two hours, must be given in order to enable them to cook their food. Differing in this respect from the operatives in other textile centres, they will not eat cooked food brought to the mill.

The *jute* mills are worked upon a system peculiar to Calcutta, and somewhat difficult to explain in detail. All the mills work, nominally, from 5 A.M. to 8 P.M. without stoppage; but it is admitted that in certain mills constant endeavours are made, when the conditions of the labour market permit of this, to "crib time," and in such cases the factory may run from 4-30 A.M. to 8-30 P.M. The workers, except in the weaving and sewing departments, are divided into a number of shifts, the hours of work of each shift being arranged so that each worker has an interval of at least two hours—or else is entirely free—at the time when he takes his principal meal. Where no long interval is given—i.e., where the worker eats his food before beginning work, or after finishing it—each operative has a rest interval of half an hour or so during the term of his shift. The shifts are so arranged that no operative works more than 11 hours a day. We ascertained by careful inquiry that these shifts, though complicated at first sight, are understood by the operatives and are actually carried out. The system will be comprehended from the diagram appended, showing the hours of work for all the adult shifts, in departments other than weaving and sewing, of a typical mill:—

		A.M.								P.M.									
Hours—		5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8		
A. Set ..	(1) ..																	9 hrs. + 2 hrs. electric light.	
	(2) ..																		
B. Set ..	(1) ..																	9 " + 2 " " "	
	(2) ..																		
C. Set ..	(1) ..																	9 "	
	(2) ..																		
D. Set ..	(1) ..																	8 " + 2 " " "	
	(2) ..																		
E. Set ..	..																	8 "	

The weavers on the other hand are invariably on duty for the full number of hours during which the mill runs. It is the custom, however, to arrange that in the case of broad looms there shall be 5 weavers for each set of 4 looms; the extra hand is in some cases engaged by the mill, in others he is engaged by the 4 weavers themselves, who pay him a monthly wage, and take from the mill the usual piece-work rate for his production. With narrow looms the 4 men on 4 adjoining looms

form themselves into a set, and arrange times of relief among themselves. The weavers must, however, all be present at the opening and closing of the mill; and they are therefore on duty ordinarily for 15 hours a day, or where "time-cribbing" is resorted to, their actual employment may extend to 16 hours a day. No regular midday interval is given in any of the jute mills, and the machinery is never stopped between the starting and closing times.

Daylight hours only are worked, but the full period of daylight is not utilized in all cases. The usual

Madras Town.

hours are from 6 A.M. to 6 P.M. in the cold season; and from 5-30 A.M. to 7 P.M. in the hot weather. The two largest mills work, on an average, about 11 hours a day only throughout the year; their longest day does not exceed $11\frac{1}{2}$ hours.

All the mills inspected work daylight hours only, the longest day being from 5-45 A.M. to 6-45 P.M.,

Madras Presidency.

and the shortest from 6 A.M. to 6 P.M. In no case do the longest hours exceed $12\frac{1}{2}$, and generally the hot weather day does not exceed 12 hours.

The hours are from dawn to 7-30 P.M., or from 6 A.M., fixed, to 7-30 P.M. In the former case the

Sholapur.

working hours average about $12\frac{1}{2}$ for the shortest days, and $13\frac{1}{2}$ for the hot weather months. A few years ago, about 1898, two of the mills worked very long hours—from 5 A.M. to 8 P.M., sometimes to 9 P.M., giving in the latter case $15\frac{1}{2}$ hours of actual work.

All the mills visited work daylight hours only. The average working time for the whole year is

The Central Provinces.

approximately 12 hours 3 minutes and the longest day in any mill was from 5-25 A.M. to 7-20 P.M.—giving 13 hours 25 minutes' actual work. The shortest working day is approximately 11 hours.

In Delhi very long hours are worked. Electric light is not usually employed during the hot weather,

The Punjab.

but in the cold season the mills actually work $13\frac{1}{2}$, 14, or even $14\frac{1}{2}$ hours a day, beginning as early as 6 A.M., and stopping as late as 9-30 P.M. The hot weather hours are usually from 5 A.M. to about 7-30 P.M. Some mills give an interval of one hour, others an interval of half an hour or three quarters of an hour. The midday interval of one hour is peculiar to the Punjab. In Amritsar and Lahore the actual working hours vary from $11\frac{1}{2}$ to 13 in the cold weather, and average $13\frac{3}{4}$ in the hot season. In Amritsar the longest interval over which the working hours are spread is from 5-10 A.M. to 7-30 P.M.; in Lahore one mill works similar hours, but the other occasionally works up to 9 P.M., and has an average 13-hour actual working day throughout the cold season. The Dhariwal Woollen Mill works, on an average, only $9\frac{1}{2}$ hours (actual) in winter, and $11\frac{1}{2}$ hours in the hot weather.

12. To recapitulate, in mills working *daylight hours* the average working time for the whole year is approximately 12 hours and 5 minutes; the longest day does not usually exceed $13\frac{1}{2}$ hours' actual work, and the shortest day is about 11 hours.

• *Summary of the preceding paragraph.*

In the mills fitted with *electric light* in Bombay island, the hours worked vary from 13 to $13\frac{1}{2}$ a day; in Ahmedabad similar hours are worked, the tendency being to prolong the time if possible, and in one mill which we visited the operatives are sometimes worked for over 14 hours a day. A case where the hours were extended to $14\frac{3}{4}$ is on record. In Broach work occasionally goes on up to $14\frac{1}{2}$ hours a day. The Agra hours are from $13\frac{3}{4}$ as a minimum to $15\frac{1}{4}$ as a maximum; in Hathras they are only one hour less. In Lucknow the actual working day is $13\frac{3}{4}$ hours. In the Calcutta jute mills the weavers are on duty for 15 hours, and this is, in some cases, extended to $15\frac{1}{2}$ or 16 hours. In Sholapur the hours range from $12\frac{1}{2}$ to $13\frac{1}{2}$; in Delhi they are from $13\frac{1}{2}$ to $14\frac{1}{2}$ a day. In Amritsar and Lahore the hours average $13\frac{3}{4}$ in the hot season, and in some cases amount to 13 hours throughout the cold weather. These are the conditions which prevail at present. But formerly the Bombay mills fitted with electric light regularly worked from 5 A.M. to 8 P.M., or $14\frac{1}{2}$ actual working hours, this being, in some cases, extended to 15 actual working hours. Similarly in Sholapur the mills were on occasion run for $15\frac{1}{2}$ actual working hours. It is to be remembered that, in all these cases, the mills were not worked on the shift system.

13. The only seasonal factories where excessive hours are worked are
ginning and rice mills. In the former class there is in general very

Hours of work in seasonal factories.

inadequate supervision; the arrangements are usually of a primitive character; and it is not infrequently the custom to leave the provision of the labour force, which consists chiefly of women, entirely in the hands of contractors, who are paid so much *per* unit of cotton ginned. Speaking generally, it may be said that gins usually work for about 12 hours with one set of hands, or for 24 hours with a double shift. At times, the frequency of which depends upon the cotton crop and the popularity of the particular factory, cotton is received for ginning in excess of the quantity which could be ginned in 12 hours, and not sufficient in amount to justify day and night working. In such cases the gins are usually worked for periods up to 15, and in rare cases 18, hours, with one set of hands; but a certain number of additional workers are generally engaged, so that the operatives can have periodical intervals of rest. The practice in this respect varies from place to place; where the gins are under the Act, as in Khandesh, the number of extra hands engaged is always sufficient to bring down the number of hours which each operative must work—assuming that they avail themselves fully of the relief facilities provided—to the number of hours permissible under the Act, or more usually to less than that number. In other centres the number of extra hands employed is not accurately calculated; and the hours actually worked by the women may be greatly in excess of

11 hours. In factories not under the Act it is a common practice to work women nominally for as long as 18 hours, allowing them to make their own arrangements for relief by other members of their families. The period of high pressure probably does not extend beyond a month, or a month and a half at the most.

In the rice mills, for reasons identical with those explained above as regards gins, working is also spasmodic [in] character at certain periods of the year. The mills usually work for about half the year only; out of the six months' season, a mill will probably work from 6 A.M. to 6 P.M. for about $3\frac{1}{2}$ months; from 6 A.M. to 10 P.M., with one set of hands—or in some cases with two shifts—for about one month; and all day and night, with double shifts, for the remaining period of $1\frac{1}{2}$ months. As it is the custom in Burma to give each worker an interval of an hour and a half during the course of the day, and, when working late, a second interval of half-an-hour about 6 P.M., an operative in a rice mill working with a single set of hands for the intermediate 16-hour period would be required to do 14 hours' actual work a day, for about one month or so in each year.

SECTION V.—*Extent to which the present Act is either ignored, or not strictly enforced.*

14. Having stated the results of our observations as to the excessive hours worked in certain factories, we shall now explain the more salient points in respect of which the present law is either ignored, or not strictly enforced. Our inspections have revealed the fact that in some provinces the law is systematically ignored to an extent not hitherto imagined, and it is necessary to set forth in some detail the irregularities and abuses which we have found to exist. It will be convenient to discuss this matter separately in so far as it affects adult males, women, and children, respectively.

15. The only restrictions which the Act imposes on the employment of adult males relate to the compulsory half-hour interval in the middle of the day, and the grant of a holiday on Sundays. The law prescribing half an hour's interval in the middle of the day is not observed in the Calcutta jute mills, in so far as the weavers are concerned; it is not observed in the cotton mills there; and it is generally disregarded in rice mills, ginning factories, presses and flour mills throughout India. In rice mills the operatives have, as a general rule, an interval of one-and-a-half hours at times suited to the convenience of each; but no definite fixed interval is given, and there is no general cessation of work. In ginning factories male labour is not employed to any large extent; but, whatever class of operatives are engaged, there is seldom a regular interval during which the gin stops. The usual practice is to run the machinery continuously until a stoppage becomes necessary for mechanical reasons, but it is customary to entertain a sufficient number of additional hands to permit

of the workers, whether male or female, obtaining intervals of rest at odd times during the course of the day. In presses the work is usually very heavy, and can only be undertaken by men of exceptional physique: no regular interval is given. The men work in gangs—there is no formal shift system—and take intervals of rest as arranged among themselves: they do not, in general, work for more than 8 hours a day. In flour mills no midday interval is usually given; the process is a continuous one, and a stoppage in the middle of the day would not only cause considerable expense, but would also interfere, to a serious extent, with the proper working of the mill.

16. Throughout India, except in Bombay, it is the general custom to call the operatives, or a certain number of them, to clean machinery on Sunday, or on the holiday given in accordance with section 5-B (2) (b) of the Act in lieu of Sunday: the work of cleaning lasts from 3 to 5 hours. It is contended that, under the terms of section 5-B, sub-section (2), clause (a) of the Act, it is open to the owners to employ the workers generally—and not merely the mechanical staff—in cleaning machinery, without granting a compensatory holiday, inasmuch as the periodical cleaning of machinery is covered by the words “the examination or repair of any machinery” in the section. We are clearly of opinion that this interpretation of the law was never contemplated, and is incorrect. The permission granted under section 5-B (2) (a) of the Act is, in our view, limited strictly to cases of *bonâ fide* repair or examination; and we are of opinion that it is a misuse of language to hold that the periodical cleaning of machinery, by the general body of operatives, constitutes either an ‘examination’ or ‘repair’ of the mill machinery, in the sense in which these words are used in the Act.

17. Experience has shown that the restrictions imposed upon the employment of women by the present Act are suited neither to the operatives themselves, nor to their employers. As a consequence, the provisions of the Act dealing with this subject have been, as a general rule, ignored. In Bombay, for example, the women employed in the reeling and winding departments of the mills come and go as they like; they seldom work for more than 10 hours or so each day; and they do not take the intervals of rest prescribed by the Act. The interval or intervals of $1\frac{1}{2}$ hours prescribed in the case of a full day's work, or the proportionate intervals to be taken in other cases, are found in practice to be too long; the women prefer to come late to their work, and to work continuously, except for short casual absences, for the whole period during which they may wish to remain in the factory on any one day. In ginning factories the women get the same interval as the men, if any interval is in fact given. In factories of this class it is customary to employ a certain percentage of extra hands—the percentage varying from place to place—in order to relieve the workers on the gins. It is claimed that in such cases the women, though they obtain no definite ascertained intervals of rest, do as a matter of fact obtain reliefs which in the aggregate equal or exceed the period

prescribed by the Act. Closely connected with this matter is the allied case where women are employed in gins after 8 P.M., no shifts having been approved. This practice is, of course, contrary to the provisions of section 6 (1) of the Act; it is urged, however, that if the number of additional operatives is sufficient to ensure that no woman shall be required to work for more than 11 hours—assuming an equal distribution of work—then the requirements of the law should be considered to have been met. This contention has been accepted in practice by the officials in Khandesh; and in that locality gin-owners are permitted to employ women at night if they provide the additional number of hands necessary to bring down each woman's working time, assuming an equal distribution of work among all the hands, to 11 hours. In certain ginning factories, more particularly those least liable to inspection, women are not infrequently worked for over 12 or even 13 hours, and in the ginning factories of Gujarat, which have not yet been brought under the Act, it is stated that women occasionally work as much as 18 hours a day, from start to finish, being relieved at odd intervals by other members of their families. In the sack-sewing sheds in jute mills, women are allowed to come and go as they like, without supervision of any kind over their working hours; and in the winding departments of certain jute mills women are occasionally allowed to work up to 13 hours a day.

18. The most serious abuses which have arisen in connection with the neglect to observe the provisions of the existing law relate to the employment of children in textile factories. In the United Provinces generally, except Agra, in the Punjab, in Southern Madras, and in the cotton mills of Bengal, children have as a rule been habitually worked during the whole running hours of the factories, not on the excuse that they were over 14 years of age, but in pure disregard of the law. The importance of this will be more readily appreciated when it is mentioned that the factories which have been illegally employing children in this manner work from 10 to 14 hours a day. This practice often involves what must be regarded as the relatively minor illegality of working children after 8 P.M. In Agra, the Bombay Presidency, the Central Provinces, and Burma the law regulating the hours of employment of children has, as a general rule, been observed; in Agra, however, one set of half-timers in each mill was employed from 1-30 P.M. to 9 P.M.; in Burma a case was discovered where the children had been worked full time up to a date shortly prior to the Commission's visit to that province; in Bombay a few cases were discovered where half-timers, certified as such, were undoubtedly employed on full time; and similar practices were also noticed in the Central Provinces. In Calcutta the children employed in the jute mills are, as a rule, worked in two sets which are employed for 7 and 8 hours respectively, or for $7\frac{1}{2}$ hours each, the object being to secure the attendance of the half-timers for the full period of 15 hours during which the mill runs.

19. The employment of half-timers for the whole day is undoubtedly greatly facilitated by the practice, which is adopted in many

mills, of splitting up the children's sets into two or more working periods, with a long interval between. In Bombay, for example, children are frequently employed in sets working 3 or $3\frac{1}{2}$ hours each, at a stretch, with an interval of the same duration between the working periods. In such cases the children almost invariably remain—in many cases they are required to remain—in the mill compound during the interval; and the temptation to the jobbers to utilize their services, if there is a shortage of labour, is great. Further, apart from practices of this kind of which the owner of the mill is probably not cognizant in many cases, it is indisputable that this "split set" system with long intervals places serious practical difficulties in the way of an inspector. Another custom which facilitates the employment of half-timers in excess of their legal hours of work is the practice of having a school for half-timers inside the mill compound. In many cases, of course, such schools have been opened with the best of motives, and the growth of abuses in connection with the overworking of the children has been carefully guarded against. But in other cases it is equally true that the so-called school has been used solely for the purpose of retaining the children at the mill during the whole working day, in order that this additional supply of labour might be utilized either as a regular measure, or temporarily when occasion demanded. The evidence contains numerous references to this question, both by millowners and officials; and the general opinion undoubtedly is that no school should be permitted within the mill compound. We are entirely in accord with that conclusion. During the course of our tour, we saw frequent instances of the abuse of the system; the "schools" were in many cases held in most unsuitable buildings; frequently no building at all was provided; the children who were supposed to be under instruction were often unable to read or write even the simplest words; no arrangements were made to secure their attendance, though the half-timers are in general not permitted to leave the mill compound; and the teachers were, as a rule, hopelessly incompetent. In one case, for example, a teacher entirely ignorant of English was supposed to be giving instruction in that language.

20. The next abuse which we find to be prevalent in connection with the employment of children is the working of children under 9 years of age as half-timers, and of children under 14 years as full-timers on the excuse that they are over 14. The matter is one to which we devoted special attention in the course of our inspections. In almost every cotton factory visited we had all the children mustered outside for examination by the medical members of the Commission. It was found impossible to adopt the same method in the case of children employed in the jute factories: the numbers involved were so large that they could not be mustered outside without stopping the mill; but careful observations were made of the children both inside the mill premises and as they passed the mill gates after work.

In cotton factories a large number of children under 9 years of age are undoubtedly employed as half-timers. In the course of our

inspections of cotton factories in Bombay island we examined 821 children employed as half-timers: with few exceptions these had all been passed as over 9 years by the certifying surgeons; but 113 of them, or about 14 *per cent.*, were, in the opinion of the two medical members of the Commission, under 9 years. Similarly we found 12 *per cent.* of the half-timers examined by us in cotton mills in Madras to be under 9 years of age, 10 *per cent.* in Nagpur, and 7 *per cent.* in Ahmedabad; while of the so-called half-timers, working actually full-time in cotton mills, we found 17 *per cent.* in Calcutta and 15 *per cent.* in Cawnpore to be under 9 years. Of a total of 3,334 half-timers examined by us in cotton factories throughout India, 327, or nearly 10 *per cent.*, were under 9 years of age. Where children are certified prior to employment—as in the Bombay Presidency—the responsibility for this state of things must rest upon the medical officers to whom the work of certifying is entrusted; where it is not the practice to send children for medical examination prior to engaging them, the factory inspectors, and the *ex-officio* inspectors under the Act, must be regarded as responsible. We shall recur to the subject again when discussing the question of the arrangements to be made for the proper certification of children; for the present, we merely wish to state that the provisions of the law in this respect are in practice disregarded or circumvented to an extent which calls for the adoption of adequate remedial measures. The conditions prevailing in the cotton mills, though bad, are very much better than those obtaining in the *jute mills* of Bengal. There children who are obviously under nine years of age, many of them not more than 6 or 7 years old, are employed for seven or eight hours a day, and the proportion of under-age children employed as half-timers probably amounts to 30 or 40 *per cent.* of the total half-timer staff. It was admitted by the manager of one of the larger mills that the proportion of children under nine years of age was probably about 25 *per cent.*; the figure which we have adopted was arrived at after careful observations in many mills, and after watching the operatives file out of the mill gates at the midday change of shifts. We cannot give a statistical basis for our opinion, but may mention that the estimates arrived at by the individual members of the Commission were remarkably close, and point to the conclusion that the figure we have adopted is a fair one.

21. Similar conditions exist, both in cotton mills where half-time sets are worked, and in *jute mills*, as regards the employment of children under 14 years of age as full-timers. In the *cotton mills* which we visited, we selected for examination 1,057 of the smallest children employed on full-time work as being over 14 years of age, and found that 404 of them were under that age; but as we did not, except in four factories, muster *all* the full-timers, no fair percentage can be deduced from these figures. In two Bombay mills, where we mustered all the male operatives, we found that there were 346 full-timers under 16 years of age, and that 64, or 18 *per cent.* of these, were under 14; in a mill at Sholapur, where we held a similar muster, the certification for age had evidently been done much more carefully, as only 6 out of

186 young adults working full-time were under 14 years of age. As regards *jute mills*, we estimate from our observations that approximately 25 per cent. of the total number of full-time workers under 17 years of age are children who have not attained 14 years of age. In the case of mills which send children for certification prior to employment, it is obvious that any under-estimates of age made when the child originally began work as a half-timer will be perpetuated; and we have already stated that such under-estimates occur frequently in some centres, notably in Bombay. Full-time workers are in general engaged without medical examination; and, as there is a great demand for young adults to work on the spinning frames, the tendency is to employ all comers who can possibly be regarded as over 14 years. Children working in the mills are also placed on full-time as soon as they are, in the opinion of the overseer or manager, able to work for the whole day. This is due partly to pressure brought to bear by the children themselves, and by their parents; and partly to the fact that children willing to work full-time are a most valuable addition to the labour force of any textile mill, inasmuch as they possess that nimbleness of fingers which is essential for piecing, and are also of a height which enables them to work at the spinning frames without undue fatigue. The wages earned are high; and the temptation to all concerned to have a half-timer placed on full-time work at the earliest possible moment is very great. The managers of the jute mills in Calcutta readily admitted the existence, if not the extent, of these abuses. One manager stated that he did not send children to the doctor to be certified prior to employment, as he had a shrewd suspicion that most of them would probably be rejected; while another frankly admitted that the mills had made no change whatever in their system consequent on the amendment of the Factory Law in 1891. The system in force prior to that date had, he said, been continued unaltered, and no attention had been paid to the provisions raising the age limits of children from seven to nine, and from twelve to fourteen. The existence of this state of affairs is in itself conclusive evidence that the present system of inspection has, in some provinces, absolutely failed; we shall recur to this subject later, when discussing the arrangements to be made for inspectional work in future.

22. Speaking generally, it may be said that the law as regards the age limits for the employment of children is generally observed in *non-textile* factories. Instances were found where children were employed in such factories, in contravention of the law; but such cases were very rare. This is probably due to the fact that the number of children for whom suitable work can be found in such factories is generally small, and the management can, therefore, devote a larger amount of individual attention to the case of each child employed. Managers can also discriminate among the various applicants for work.

23. The employment of children on full-time, and the working of under-age children, are the most serious abuses regarding child labour which we have discovered. The provisions of the law are also disregarded in other respects, however. It is the custom, for example, in some

mills to allow the children no midday interval unless the hours of work are so arranged that it is convenient, from the point of view of the general working of the factory, to grant them a recess at that time. The children, where they are employed for half-time only, are frequently required to work for seven hours continuously without any interval of rest; and one manager who adopted this system went so far as to claim that it was a sufficient compliance with the law if half an hour's interval were given to the half-timers *before they began work, or after they finished it*. We have already alluded, incidentally, to the employment of children after 8 P.M.; this infraction of the law is common in all cotton mills which work after that hour.

SECTION VI.—*The economic position and the habits of the Indian mill operative.*

24. We have now stated the main results of our observations as to the hours of work in Indian factories, the general conditions of labour there, and the extent to which the existing factory legislation is either ignored or evaded. Before explaining our views as to the effect of these conditions on the health of the operatives, and making suggestions for the amendment of the law, we consider it advisable to call attention to the economic position and the habits of the Indian operative, in so far as these are relevant to the questions under discussion.

25. The habits of the Indian factory operative are determined by the fact that he is primarily an agriculturist, or a labourer on the land. In almost all cases his hereditary occupation is agriculture; his home is in the village from which he comes, not in the city in which he labours; his wife and family ordinarily continue to live in that village; he regularly remits a portion of his wages there; and he returns there periodically to look after his affairs, and to obtain rest after the strain of factory life. There is as yet practically no factory population, such as exists in European countries, consisting of a large number of operatives trained from their youth to one particular class of work, and dependent upon employment at that work for their livelihood. It follows that the Indian operative is, in general, independent of factory work, to the extent that he does not rely exclusively upon factory employment in order to obtain a livelihood; at most seasons he can command a wage sufficient to keep him, probably on a somewhat lower scale of comfort, by accepting work on the land; and there are also numerous other avenues of employment, more remunerative than agricultural labour, which are open to every worker in any large industrial centre. If the operative is not merely a landless labourer, he will in general be bound by strong ties to the land and to the village from which he originally came; he can at any time abandon factory life in order to revert to agriculture; and the claims of the village where he has a definite and accepted position are in practice, as experience has shown, sufficiently powerful to recall him from city life for a period

which extends, on the average, to at least a month in each year. The Bombay operative, resident in the Konkan, probably returns to his village for one month each year; and the jute weaver of Bengal, working longer hours and earning higher wages, is not content with less than two or three months. Whenever factory life becomes irksome, the operative can return to his village; there is probably always work of some kind for him there if he wishes it; and in most cases he is secured against want by the joint family system.

The position of the operative has been greatly strengthened by the fact that the supply of factory labour undoubtedly is, and has been, inadequate; and there is, and has been, the keenest competition among employers to secure a full labour supply. These two main causes—the independence of the Indian labourer, owing to the fact that he possesses other and congenial means of earning a livelihood, and the deficient labour supply—govern the whole situation.

26. Inasmuch as the Indian factory operative is not in general a factory operative, pure and simple, he is comparatively unskilled at his work; because his services are indispensable and difficult to obtain, he is, within wide limits, allowed by his employers to perform the work entrusted to him as and how he likes. We have constantly been reminded, during the course of our investigations, of the lack of skill of the operatives; and the numerous comparisons which have been made with the conditions prevailing in Europe place the relative inefficiency of the Indian operative beyond all possibility of doubt. The most accurate comparison of this nature which has been produced before us is that prepared by Mr. C. B. Simpson of Madras (page 313 of the printed evidence); it shows that, taking the whole staff of a cotton spinning and weaving mill, 2·67 hands in an Indian mill are the equivalent of one hand in a Lancashire mill. We have also been impressed with the fact that employers are generally disposed to concede promptly all reasonable demands made by their workers; and, even where the demands made are unreasonable, to treat them as proposals which it is desirable to accede to, if possible. Great nervousness is frequently displayed by employers of labour as to the effect even of trivial changes on the workers; numerous expedients are adopted to conciliate them, and the attitude of the employers throughout appears to be based upon the knowledge that the operatives are in fact the masters of the situation.

But although factory labour in India enjoys this exceptional position, it does not follow that the lot of the factory labourers is an enviable one, or that the labourers always work under satisfactory conditions. The history of the long hours movement in the Bombay mills, for example, suggests that Indian operatives are capable of remaining quiescent under conditions which would probably not be tolerated by a class of similar standing in any other country. The fact that the hours worked were grossly excessive does not appear to have struck the operatives, as a class, until the matter was taken up by the Government and by the press. Further

the history of the movement in Bombay, and of similar movements in other industrial centres, shows clearly that while the operatives fully understand the machinery of local strikes, and have repeatedly forced employers to comply with their demands in isolated cases, they are as yet unable to combine over any large area with the object of securing a common end by concerted action. One of the main difficulties experienced at present, when unrest appears among the workers, is in ascertaining the causes of that unrest. Frequently no definite demands are formulated, no grievances are stated, no indication is given as to the cause of the discontent; the operatives simply leave work in a body, or more commonly they drop off one by one without explanation, and accept employment under more congenial conditions in other factories.

27. The Indian operative is fond of change; he prefers to wander from mill to mill rather than remain settled; and the slightest causes are apparently sufficient to determine him to leave one employer in favour of another. We have found operatives who have travelled from one industrial centre to another throughout the greater part of India; and statistics which we have collected show that the *personnel* of the workers in mills in places so far apart as Bombay, Madras, and Nagpur changes almost completely in about a year and a half, on the average. The inducements to change are occasionally pecuniary, of course; but as a general rule the same rate of pay obtains throughout each centre, and in such cases the motive must be looked for elsewhere.

28. The Indian factory worker is, in general, incapable of prolonged and intense effort; he may work hard for a comparatively short period, but even in such cases the standard attained is much below what would be expected, in similar circumstances, in any European country. His natural inclination is to spread the work he has to do over a long period of time, working in a leisurely manner throughout, and taking intervals of rest whenever he feels disinclined for further exertion. Meals are generally eaten during the working hours of the factory; the midday interval is sometimes devoted to sleep; and the operative leaves his work frequently throughout the day in order to eat, smoke, bathe, and so on. As the result of careful inquiries made throughout our tour, we estimate that in the cotton textile mills in India the average operative probably spends from $1\frac{1}{2}$ to 2 hours each day, in addition to the statutory midday interval, away from his work. Where the pass-out system is in force, the usual limit is 12 *per cent.*, but that system is frequently very laxly enforced owing to the strong disinclination of the Indian factory operative to submit to discipline. Operatives have struck, and forced their employers to give way, when passes up to 15 *per cent.*, or even higher, were granted; the workers demanded the abolition of the pass-out system, and compelled their employers to revert to the old arrangement where each man was allowed to come and go freely. To permit of these temporary absences during working hours, the complement of workers

in an Indian textile factory is always from 10 to 15 *per cent.* in excess of the number of hands actually required to man the machinery at any one time. In addition to these daily intervals, the operative probably takes leave for one month or longer in each year, in order to return to his village. In jute mills, where the operatives in the spinning and preparing departments work on an average 10 hours only, there is not nearly so much loitering; but the hands take a longer holiday—varying from one to three months each year—in order to return to their homes; and the number of workers on leave during the hot weather is frequently so large that the production of the mills falls as much as 25 *per cent.* below the normal.

Facts showing that the Indian operative in a cotton textile factory generally works in a casual manner are to be found on almost every page of the recorded evidence; and we are convinced, from actual observation, that the statements made as to this matter are substantially correct. The operative in a cotton mill is, however, usually called upon to work for excessive hours; and we are disposed to think that there is some causal connection between this fact and the extent to which loitering occurs. As we have already stated, the operatives in the Calcutta jute mills, working short hours by shifts, do not idle away time to anything like the extent observable in Bombay; in engineering shops throughout India, where the hours seldom exceed eight a day, there is very little idling; and in some of the better managed mills, where there is strong European supervision, and the hours do not on the average exceed ten or ten and a half a day, there is little or no idling. In a woollen mill in the United Provinces, working on an average only $10\frac{1}{2}$ hours a day, accurate statistics have been collected for some years, and it was found that on two selected days, one in May and one in November, about 44 *per cent.* of the workmen remained inside the mill during the whole of the working hours; the average operative there does not leave his work for more than half an hour in the day. In Agra, on the other hand, where the operatives come from the same part of the country, but where the working day varies from $13\frac{3}{4}$ to $15\frac{1}{4}$ hours, we were particularly struck with the listless, lazy manner of the operatives, and with the large number loitering about in the compound. Similar comparisons obtruded themselves upon our notice throughout the tour; the system in force at Delhi, for example, compares most unfavourably in this respect with that obtaining at the Empress Mills in Nagpur, or the Buckingham and Carnatic Mills in Madras. We shall deal with this question, from the statistical point of view, when discussing the effect on production of working days of varying length; at this stage it will suffice if we state that the comparisons which we have been enabled to make have convinced us that the Indian operative, while naturally disposed to take work easily, possesses considerable adaptability, and that the length of the day determines to some extent the manner in which he works. Where the hours are short and supervision is good, the operatives can be trained to adopt fairly regular and steady habits of working; where the hours are long and the discipline of the factory is bad, the workers will idle

through the time, and take frequent intervals away from their work. The natural tendency of the Indian operative is to spread his work over a long period, working at it in the most leisurely manner; but that tendency can, we consider, be corrected to some extent by the maintenance of proper discipline, and, as an absolute *sine qua non*, by working the factory for reasonable hours only.

The wages of operatives in textile factories vary from place to place, but are everywhere considerably higher than those earned by the same class of men in other employments. Taking the cotton factories all over India, monthly wages or earnings vary within the following limits:—half-time children from Rs. $2\frac{1}{2}$ to Rs. $4\frac{1}{2}$, full-time boys between 14 and 17 years of age from Rs. 5 to Rs. 13, ordinary hands in the card and frame departments from Rs. 7 to Rs. 18, head spinners (mule) from Rs. 25 to Rs. 35, mule piecers from Rs. 10 to Rs. 16, weavers minding one loom from Rs. 10 to Rs. 15, weavers minding two looms from Rs. 18 to Rs. 35, women (reeling and winding) from Rs. 5 to Rs. 12. The wages in the jute mills are rather higher.

29. The majority of the factory operatives in the larger industrial centres being, as has been stated, only temporarily resident there, the question of their housing has an important bearing on their habits. In Calcutta most of the textile mills have built commodious settlements near the mill premises for large numbers of their operatives; and similar arrangements have been made by several mills in Upper India. In these settlements the workers are comfortably housed at rents which average only 12 annas a room *per* month, and the general opinion, which is supported in the case of one mill by actual statistics, is that the provision of house accommodation undoubtedly renders the labour supply more regular and forms a considerable attraction to new recruits. In Bombay, on the other hand, where available land is scarce, little has been done by the mills in this direction, and the operatives as a rule herd together, for the sake of economy, into large, many-storeyed, barrack-like buildings, called *chawls*, which are provided by private enterprise. The rooms occupied by the mill-hands are in general much over-crowded; there is little privacy, and no home life. The rent of a room $12' \times 10' \times 9'$, which frequently accommodates five or six persons, ranges from Rs. 2 to Rs. 3 a month. Workers not accompanied by their families generally board with some other operative who has a female relation living with him; the latter cooks the food for all the men, and takes it to the mill. The general rate for board and lodging, where the boarders with their host and his family share one room, is apparently Rs. 6 a month for an adult and about Rs. 5 for a youth.

30. Working the long hours which prevail in most of the textile factories, and being able, owing to the scarcity of labour, to command a high rate of wages, the average operative earns more than the amount required to keep himself and his family in the standard of comfort to which they have been accustomed. Owing partly to this fact, and partly to the monotonous and wearing nature of the life he leads, he frequently spends a considerable portion of his earnings in drink,

The consumption of liquor among factory workers is, we consider, undoubtedly greater than among men of the same rank in life engaged in other occupations; but we have no reason to think that this points to excessive drinking. Some members of the Commission had frequent opportunities, during the period of their stay in Bombay, of observing the mill operatives in their own quarters, at all hours from the time of the closing of the mills till late at night, and only one or two intoxicated men were seen, out of thousands, during a period of about seven weeks.

31. One of the main difficulties to be contended with in this country by employers of labour is the low standard of living among the workers. As usual, this low standard of living is accompanied by low efficiency; but the chief difficulty in India is that the present standard of living is rising very slowly, and the workmen respond feebly to the ordinary economic impulses which are so effective in European countries. A rise of wages in India may actually diminish the labour supply, in the first instance, in place of increasing it. Many employers of labour contend that a rise in wages, by enabling the workers to earn a larger sum in a given time, results in their absenting themselves from work for longer periods; as their wants are few, and not expansive, the only object to which they can in general apply their savings is to support themselves in idleness; the more they can earn in a given time, the more frequent holidays they take, and the longer they absent themselves from work. We do not entirely support this view; but it seems to us indisputable that it contains a considerable element of truth in present circumstances. Matters are gradually improving in this respect, however; the standard of living is undoubtedly rising all over India, though slowly; and there are some indications that a class of factory operatives, detached from agriculture and village life, and depending largely or solely upon industrial employment, is beginning to be formed.

SECTION VII.—*The effects of the present conditions of employment on the physique of the workers.*

- • 32. In considering the question of the effect of the present conditions of the employment on the physique of the workers, we are met by the initial difficulty that no accurate statistics are available. Every effort was made, during the course of the tour, to obtain definite statistical information on the subject, but it was found that vital statistics in India do not in general differentiate between factory workers and the mass of the population; and records of mortality in factory centres were, from various causes, inconclusive as regards the main object of our enquiries. It was thought that figures of some value might be obtained by weighing operatives in each factory visited, and comparing the results with similar figures obtained from jails throughout India. This procedure was, in the

Effects of the present conditions of employment on physique: lack of statistics.

absence of any other practicable alternative, finally decided upon. In almost all factories visited a number of adult operatives selected as fair average specimens were weighed, and the average weight recorded. The figures so obtained, contrasted with the jail averages, are tabulated in Appendix C.

The general result deducible from these figures is that the factory operatives weigh, on the average, about 8 to 10 pounds less than the average of the jail population between the ages of 20 and 50. The degree of importance to be attached to this result is a difficult question. In the first place, it is impossible to assume that the jail population between the ages of 20 and 50 correctly represents the general average of the population from which the factory operatives are drawn; in the second place, prisoners generally gain in weight in the Indian jails, and it is probable that their average weight considerably exceeds that of the population from which they are drawn; and, in the third place, factory operatives are in some cases not drawn from the provinces in which they work. In view of these considerations we are unable to formulate any definite conclusion from the figures compiled; we have decided to reproduce them in the report, however, as they may possibly prove of some value in the absence of any other statistical information on the subject.

33. In Bombay City, where efforts have for years past been made to obtain accurate mortality returns, it has been found possible to compare the death-rate of factory operatives with that of "general labourers." The statistics have been compiled by Dr. Turner, the Executive Health Officer of the Municipality, and will be found appended to his written evidence. The basis upon which they are framed will be evident from the statement itself, and from Dr. Turner's oral evidence. These statistics show that, comparing the weavers and spinners in the Bombay mills with the dock labourers, general labourers, and domestic servants in that city, the mortality among the mill-hands, year by year over a period of seven years, is considerably less than among the general labourers; the deaths from respiratory diseases are also less; but the death-rate from phthisis is higher. The average mortality *per thousand* of the population for the seven years from 1900 to 1906 is:—

	Phthisis.	Other respiratory diseases.	All causes.
general labourers	2.26	3.55	31.58*
factory operatives	2.38	1.88	18.45

The death-rate from phthisis is markedly high, as compared with the low general death-rate of mill operatives. Dr. Turner, who has had a long experience of the conditions prevailing in Bombay, and who was also a member of the Textile Factory Labour Committee, is of opinion that "the factory population is not below the average of the same class as regards physique." He agreed that the statistics which he has furnished show that factory hands are healthier than general labourers, and he assures us that there can be no question as to the

correctness of the total death-rates shown in the statement supplied by him. He considers that, with the exception of phthisis, mill-hands are much less liable to respiratory diseases than general labourers.

34. We have already referred to Lieutenant-Colonel Mactaggart's exceptional qualifications for forming an accurate opinion upon this subject, and would refer to Appendix B, where his views on the question are given in detail. After inspecting with us 57 factories in Bombay, Ahmedabad, and Broach, he "is distinctly of opinion that the physical condition of the factory operatives in Bombay is in every way excellent, and that it compares favourably with that of agricultural labourers, and men of the coolie class generally." With reference to the question of the prevalence of tuberculosis among the mill-hands, he states that "the marked absence of all signs of tubercular disease of glands or joints led me to think that tubercle, in spite of the assertion of one medical witness to the contrary, cannot be common among factory operatives in Bombay." His general conclusion is that "the hours of labour now in force in the Bombay factories have had no bad effect on the health of the operatives"; and he expresses this opinion in the most emphatic manner. In this connection, we would invite attention to the inspection notes recorded regarding mills 43 and 48 in Bombay. At these inspections the whole of the mill operatives employed, approximately 1,500 in number, were mustered for examination. The remarks which we then recorded were as follows:—

Mill 43—889 adults.—"The general physique of the operatives was excellent; there was a remarkable absence of skin disease, or other indication of malnutrition. Only one had marks of tuberculosis of glands. The men were a big lot; 60 were weighed, giving an average of 102 pounds."

Mill 48—584 adults.—"The men, though as a rule slight in build, were in good physical condition; none of them showed any signs of disease of glands or joints, and there was a remarkable absence of skin disease. Weighed 30 adults from the carding and spinning departments—average weight 94 pounds."

These notes were recorded from the joint observations of Lieutenant-Colonel Mactaggart and Dr. Nair.

35. The evidence of the medical witnesses on this subject is, as might have been expected, somewhat conflicting. On the whole, however, the majority are of opinion that there is no difference in general health or physique between factory operatives and the average of the population of the same class. A number hold that factory operatives are of better physique, and more healthy, than the non-factory population of the same class; they base this view upon their personal experience of both classes, and contend that the factory operative is generally much better nourished than the non-factory worker, that he is protected to a much greater extent than other labourers from extremes of temperature, and from the enervating effects of constant exposure to the sun. On the other hand, a considerable number of medical witnesses—almost all of whom practise in Bombay—are of opinion that factory operatives are decidedly inferior to the general

population of the same class, both as regards physique, and resisting power to the attacks of disease. They consider that mill-hands are peculiarly liable to phthisis and other respiratory diseases; and that their health has been undermined to a considerable extent owing to the long hours worked, the confinement in an impure and humid atmosphere, and the strain to which they are subjected. The death statistics prepared from the city records are considered inconclusive as it is stated that the mill-hands, when they fall ill, leave Bombay, and proceed to their homes. The absence of old men from the mills—a fact regarding which there can be no doubt—is also quoted in support of the opinion that the hands age prematurely, and become unfit for mill labour at a comparatively early age, returning to their homes with their health impaired, and their constitutions shattered. In considering the weight to be attached to these opinions, it is to be remembered that they are, like the opinions to the contrary effect, entirely unsupported by statistics; and with one or two exceptions, they refer to the mill-hands in Bombay City only. Now the only fairly accurate statistics available on the subject are for Bombay City, and they do not support the views put forward, except as regards the greater liability of the operatives to phthisis. The contention that these statistics are in themselves unreliable is met, more or less completely, by the fact that the death-rate in the Ratnagiri district, from which the Bombay mill operatives are recruited, is one of the lowest in the whole Presidency. These death-rate statistics, though possibly of but little value absolutely, have a relative value which cannot be ignored; and they appear to dispose finally of the contention that the true mortality among mill operatives in Bombay is far in excess of the figures quoted in Dr. Turner's statement.

36. We have now given a brief resumé of the statistical information

Our conclusions as to the question of physical deterioration: adult males. available as regards the physical condition of the factory operatives;

we have quoted Lieutenant-Colonel Mactaggart's opinion on the subject; and have summarised the views held by the medical witnesses examined by us. It remains for us to state our own conclusions. Throughout the enquiry, this subject was constantly before us; in every inspection which we made, we carefully examined the general physique of the operatives; and we were constantly on the watch for any signs pointing to the existence of physical deterioration. So long as Lieutenant-Colonel Mactaggart remained with us, he and Dr. Nair, jointly, devoted special attention to this matter; when Lieutenant-Colonel Mactaggart's services were no longer available, the enquiry was continued, upon the same lines, by Dr. Nair and by the Commission as a whole. Despite the constant and careful attention paid to this matter, we did not, during the whole course of our investigations, find any indications of physical deterioration among adult male factory operatives. As regards non-textile factories, we accept this as conclusive, in the absence of any conditions tending to deterioration, and record our opinion that there has been no physical deterioration due to the present conditions of factory employment. Our conclusion in respect of textile factories requires fuller explanation.

37. While admitting that signs of physical deterioration were nowhere observable amongst the adult male operatives of the textile factories visited by us, we consider that the past and present conditions of work in many factories are undoubtedly calculated to cause physical deterioration, owing to the severe strain thrown on the constitution by excessive hours of work in humid and often badly ventilated work-rooms. We also think it possible that, if the life history of a considerable number of the operatives working under these conditions could be traced to its close, there would be evidence of premature exhaustion. We were everywhere struck with the marked absence of elderly men from textile factories, in spite of the fact that the demand for labour is largely in excess of the supply; and we consider that this points to the conclusion that the operative becomes unable to stand the strain of work under present conditions at a comparatively early age.

38. On the other hand, there is the undoubted fact that the Indian operative readily adapts himself to circumstances, and to a great extent counteracts the evil effects of an increase of working hours by idling more while at work. To take one instance, in the cotton mills in Agra, which work very long hours, from daylight to 9 P.M., it was admitted that the amount of loitering among the hands is much greater than in mills working shorter hours, and that more extra hands have therefore to be employed. We made an actual count of the loiterers in the compound of one of the Agra mills, and found that as early as 9 A.M. 15 per cent. of the hands were idling outside. We also ascertained that in these mills the European supervisors are allowed to leave work at 5 P.M., and return for a few minutes only to see the mill closed at 9 P.M. Between 5 P.M. and 9 P.M. great slackness prevails in the mill. We have already shown that on an average the worker in an Indian cotton mill spends from $1\frac{1}{2}$ to 2 hours of the actual working day away from his work. In addition to these daily intervals, each operative generally takes two or three days holiday each month, and an annual holiday which may extend to from one to three months. In order to obtain accurate information on this subject, the books of two representative mills in Bombay, belonging to different owners, were, through the courtesy of the managing agents, scrutinised in detail by one of the members of the Commission. The general results are given, in tabular form, below:—

• • *Average absence per operative per year, over the three-year period 1905-06-07.*

Department.	Mill A.	Mill B.
Carding	55 days	45 days.
Throstle	62 „	51 „
Weaving	72 „	50 „

That is, the average operative may be said to take two days off work every month, and a further annual holiday of from 3 to 7 weeks. In addition, he receives the Sunday holiday, and from four to ten native holidays during the year.

39. Our conclusions regarding the effects of the present conditions of employment on adult males in textile factories may be summarised as follows:—

- (a) no physical deterioration is observable anywhere among the operatives actually at work;
- (b) the life history of operatives after they leave factory work cannot be traced, and therefore any subsequent deterioration would not come under our notice;
- (c) the operatives counteract to a considerable extent, by their leisurely mode of work, the evil results which would naturally follow from excessive hours of work.
- (d) the very long hours worked in many mills in the past, and in some mills at present, are calculated to produce physical deterioration; if generally adopted or persisted in for any length of time, they would almost certainly result in the physical deterioration of the operatives.

40. Little information is obtainable from the medical evidence as to the physical condition of young adults working in factories; but our observations lead us to think that this class—the workers between the ages of 14 and 17, who are employed for the full working time of the factory—are in general in good physical condition, if somewhat undersized. In Madras, the Central Provinces, and the Punjab the young adults are inferior to the standard in other provinces, and are in some cases thin and weakly looking. As no separate registers or statistics relative to this class are kept, and as there is at present nothing to direct special attention to them, we have had to rely exclusively on our own observations in respect of this matter.

41. The physique of the female workers is uniformly excellent.

Physique of female operatives.

Writing on this subject Lieutenant-Colonel Mactaggart notes that

“the women working in the factories seemed to me to be a particularly healthy lot, and quite capable of working the same hours as I have suggested for young persons.” The general trend of the medical evidence is also to the effect that the female workers are of good physique, and are not in any way injuriously affected by their employment in factories. In this connection we would invite a reference to the remarks which have already been made as to the habits of work of these operatives. They come and go as they like, since they are generally on piece-work. In cotton textile factories they are employed almost exclusively in the reeling and winding departments, where they work under exceptionally favourable conditions. The ventilation of these departments is in general excellent; there is no noise or dust; the wages earned are good; and the work imposes no great strain on the operatives. In jute mills women are employed in the preparing, winding, and sewing departments only; the hours worked do not, as a rule, exceed ten; and the hygienic conditions are favourable.

42. The children examined during the course of the tour were

Physique of children. in general of poor physique, thin and weakly looking, especially in

cotton textile factories. We devoted special attention to this subject, and in almost every cotton factory which we visited we had *all* the children mustered outside for inspection. In jute mills we observed large numbers of children both at work and outside the mills, and found them a rather better lot than those in the cotton mills, but still in many cases weak and poorly developed. Owing to the prevalence of abuses, which have already been discussed fully—the working of half-time children for full time, the employment of children under age, the neglect to give regular intervals, and so on—it is difficult to form a clear idea as to what the effect of the present legal working hours, if faithfully adhered to, would have been on the general health and physique of the children. We are satisfied, however, that the children at present working in the factories are somewhat below the normal standard, although we are unable to say to what extent the abuses which we have mentioned are responsible for this. In Cawnpore and Northern India generally, where the adult mill-hands are as a rule of fine physique, we were specially struck with the poor appearance of the children. There can be no doubt that doffing, even though intermittent, is hard work for a child of 9 years of age; and some relief from present conditions seems to us to be called for in the case of children.

43. The remarks made as to the general physical condition of the

No physical deterioration among employees of seasonal factories. operatives—adult males, young adults, women, and children—do

not apply to seasonal factories, where the working period is in general short. The chief seasonal factories are cotton gins, cotton and jute presses, and rice mills. In ginning factories the average season extends to about four or five months; the workers are chiefly middle-aged or old women, drawn from the field-labouring class; and by accepting work in these factories they obtain employment during a time when the demand for field-labour is not great. The work in itself is light; and, owing to the system of daily or weekly payments adopted, the gin-tenders are in a much more independent position than the average factory labourer. If the work proves too hard, or the hours too exhausting, they can leave at once. The gins are occasionally worked, with one set of hands, for periods of from 12 to 18 hours; one set of workers would not, however, usually work for more than 14 or 15 hours, at the most, and during this time they would be allowed to take frequent intervals of rest, which are provided for by engaging a number of additional workers. The period of pressure does not ordinarily exceed one month, or a month and a half, as a maximum. In cotton and jute presses the season is approximately of the same duration. The presses are manned by adult males, and—though occasionally worked for longer periods—the average day does not exceed 12 hours. The men work in gangs, and it is seldom that any individual works for more than 8 hours on any one day. The conditions prevailing in the rice mills have already been described. In all these cases, though periods of pressure occur, they are always short; and no injurious results to the operatives appear to have ensued. In presses

the men are usually of exceptional physique; they work short hours; and they earn very high wages. In the rice mills the bulk of the labour is imported from Madras; the workers are of exceptionally good physique; and they also earn very high wages. In gins the work is light; the operatives are enabled to maintain themselves at a time when other employment is scarce; and, as in the other cases, the period of pressure is comparatively short. We have no reason to believe that the conditions of employment in these seasonal factories are such as to cause physical deterioration among the operatives.

SECTION VIII.—*Should a direct restriction be placed upon the hours of work of adult male factory operatives?*

44. The question of the imposition of a direct restriction on the working hours of adult male factory operatives is the most important of the various points referred to us, and it will be necessary to discuss it at some length.

Discussion of the proposed restriction of working hours of adults.

In the latter portion of the year 1905 the Bombay mills worked for $14\frac{1}{2}$ hours daily with one set of hands. That state of affairs happily did not continue long in Bombay; but there is no guarantee that it will not recur, and we find it prevailing permanently in the mills at Agra and other industrial centres in Northern India. We consider that it is the duty of Government, on both economic and humanitarian grounds, to prevent the continuance or the recurrence of that system. We are convinced that it is impossible to work men regularly for $14\frac{1}{2}$ hours a day—even in the manner in which Indian operatives admittedly work—without serious permanent injury to their health; and also that any system under which they are required to work for such excessive hours must necessarily be prejudicial not only to them, but also to the industry with which they are connected. Apart altogether from economic grounds, however, it appears to us indisputable that the Government cannot permit a large section of the industrial population to be regularly worked for $14\frac{1}{2}$ hours a day. The evidence which has been recorded shows that in many cases the workers have to walk two or three miles before arriving at the mill in the morning, or after leaving it at night; they are unable to ascertain the time exactly; and in consequence a 15-hour day from start to finish may mean—and in many cases does mean—that the operative is absent from his home for 16 or 17 hours each day. In other words, when working a 15-hour day many operatives can, as a maximum, obtain only seven or eight hours at their homes. In our opinion no further argument is necessary to prove that such a condition of affairs must inevitably lead to the deterioration of the workers; it must also render factory work so unpopular that the labour supply necessary for the adequate development of the industrial resources of the country will not be forthcoming; and the abuse is of so grave a character, so opposed to all humanitarian considerations, and so fraught with serious consequences both to the industrial population, and to Indian industries that the Government would, in our opinion, be justified in taking any

steps which experience might show to be necessary in order to prevent it from continuing or recurring.

45. During the course of the examination of the witnesses, we were repeatedly assured that the conditions which obtained in the Bombay mills in 1905 would not again recur. We can find no satisfactory guarantee as to the correctness of this forecast, however. If the market conditions should again become peculiarly favourable, the inevitable tendency will be, if we may judge from the history of the past, to work as long hours as possible in order to take the fullest advantage of a state of affairs which will, *ex hypothesi*, be temporary only, and we consider that no reliance can be placed upon the vague general assurances to the contrary. We have already seen that the Millowners' Association is powerless to enforce any rules of a restrictive character on individual proprietors, while a considerable number of operatives are prepared to work for 15 hours a day, if they can thereby obtain correspondingly higher wages. In these circumstances it appears to us essential that some practical arrangement, which does not in any way depend upon the co-operation of the millowners, must be devised before any security can be felt that the conditions obtaining in 1905 will not be again repeated.

We also believe that the great mass of the workers in textile mills would welcome any measure calculated to prevent their being worked excessive hours in future. In the absence of any direct representations from the workers themselves, we took every opportunity in the course of our tour of questioning the operatives and personally ascertaining their views; and we found them, with few exceptions, strongly opposed to the practice of working excessive hours, and in favour of interference by Government to prevent it. It may be that they hope to be able to force their employers to pay them for a reduced working-day the same wage as they earn now: this will be a matter for settlement between the employers and the employed when the time comes, and we do not anticipate that any serious difficulty will occur in effecting this settlement. But we are convinced that the large majority of workers desire the restriction of hours, even at a sacrifice.

46. The most obvious restriction of this nature is a direct limitation of the working hours of adult males. We would be prepared to recommend the imposition of that restriction, if it were clearly demonstrated that the object in view could not be attained in any other manner. We are satisfied, however, that that is not the case; and we would strongly deprecate any direct limitation of the working hours of adults until all other restrictive measures of a practicable character have been tried, and have been proved inadequate. Firstly, we do not consider that any case has been made out in favour of applying a principle which is admittedly of somewhat doubtful validity, which commands acceptance in very few countries, which is open to the gravest objections from a practical point of view, and which supplies a remedy very much more drastic than the circumstances of the case demand. We are satisfied, as a result

of careful observation and enquiries, that the recommendations which we shall shortly make will, in themselves, be sufficient to prevent the continuance or recurrence of the abuses against which we seek to guard, and in these circumstances we consider it unjustifiable to resort to a measure which has never been accepted in England, and which would undoubtedly cause the gravest inconvenience in practical working.

In the second place, the direct limitation of the working hours of adults would impose on *all* factories a restriction which we find to be required only in textile factories. In no other industry have we found the existence of any abuse, in the matter of excessive working hours, calling for interference, and we are strongly opposed to the imposition of any unnecessary restriction on the employment of labour in factories, especially at a time when the further industrial development of the country is of such vital importance.

In the third place, the strongest practical objections exist to the general enforcement in India of any law rigidly restricting the working hours of adult males. Every effort is, of course, made by factory-owners to systematise working conditions, to make the working hours as uniform as possible, and to prevent the necessity for working overtime. But in all industries overtime is frequently necessary; and we believe that it would be impossible to devise a workable system of exceptions which would give employers the freedom they could legitimately claim, and at the same time secure the general enforcement of the restriction. In France the factory law directly restricting the working hours of men contains numerous exceptions for all the occasions on which overtime may have to be worked in different industries; and previous notice must be given to one of the ninety-one inspectors by an employer desiring to avail himself of any exception. We consider that such a system would be utterly unworkable in India. The area over which factories are scattered in India is so vast, the inspectional staff is necessarily so small, and the employers of labour in the smaller factories are frequently so imperfectly educated, that the system could not be enforced without the gravest injury to Indian industries. Even if the whole field of existing industries could be covered by a list of special exceptions, it is obvious that no provision could be made in advance for the new industries which are springing up, and which it is necessary to foster and encourage in every possible way. Official procedure necessarily involves considerable delay; and it is possible that while the Government was ascertaining the exemptions necessary to enable a new industry to establish itself, that industry might find it impossible to continue the struggle for existence.

In the fourth place, the imposition of a direct restriction on the hours of adult labour would be repugnant to the great majority of capitalists, both in India and abroad, who have invested, or are considering the question of investing, money in India. This is clear from the record of evidence. In the cases where owners of factories have expressed their approval of legislation restricting the hours of work of adult males, it is apparent that they are in favour of that course, not because they consider it advisable in itself, but because

they are impressed by the existence of serious abuses, and see no other practicable alternative which would be effectual in preventing these abuses. Any course calculated to hamper employers in their dealings with their labour force, and to impose serious practical disabilities upon them in the internal management of their works, will certainly be keenly resented. This statement of the case does not, however, exhaust the question. As Sir John Hewett has pointed out in his note, which is printed with the evidence, there is reason to fear that, if legislation is now undertaken to limit the working hours of adult males to 12 or 13 hours, it will not stop there, and attempts will be made in the future—not always suggested merely by the idea of doing justice to the operatives—to restrict still further their working hours. It was impossible to avoid observing the degree of importance attached to this question by English and Indian capitalists throughout India. It would be outside our province to enquire as to the justification for this attitude; but there can be no doubt that the opinion is widely and strongly held that, if interference with adult labour be permitted, pressure will be brought to bear in order to utilize that power of interference in a manner calculated to promote the interests of Lancashire and Dundee, rather than of India. The prevalence of this impression—whether it be right or wrong is, for the purpose of the present discussion, immaterial—would undoubtedly adversely affect India's industrial development.

47. We trust that we have made our position in respect of this matter clear. We are strongly opposed to any direct limitation of adult working hours, because we consider that there is no necessity for the adoption of this drastic course, because we are convinced that it would cause the gravest inconvenience to existing industries, most of which have never worked long hours, and because we think that such a measure would seriously hamper the growth of industrial enterprise. We believe that the working of adults for excessive hours in textile factories will be effectively prevented, incidentally, by the measures we propose for restricting the hours of "young persons," women, and children. Had this effective alternative not been available, we are of opinion that direct limitation of the working hours of adults would then have been not only justifiable, but necessary, in order to prevent abuses which the Government could not, upon economic and humanitarian grounds, permit to continue or recur.

SECTION IX.—*The measures on which we rely for an indirect limitation of the working hours of adult males, and the probable effect of these measures.*

The restrictive measures which will lead to a limitation of adult working hours. 48. The measures on which we rely for an indirect restriction of the working hours of adult males to reasonable limits are:—

- (1) The formation of a "young persons" class, to comprise all young adults between the ages of 14 and 17, with working hours limited to 12 in any one day;

- (2) the reduction of the working hours of children from 7 hours to 6 hours ;
- (3) the prohibition of the employment of "young persons," women, and children before 5-30 A.M. or after 7 P.M. ;
- (4) the substitution of a compulsory interval after six hours' continuous work, in place of the present mid-day interval; and
- (5) the assimilation of the restrictions placed upon the employment of women to those proposed for the "young persons" class.

The first four of these measures are the most important; the last is merely of subsidiary importance, in so far as the present question is concerned.

Before discussing the probable effect of these suggested amendments of the law, we desire to lay stress upon the fact that they have not been proposed merely in order to avoid the necessity for the imposition of a direct restriction on the working hours of adult males. That will, we hope, be one of the consequences which will follow from their adoption; but the measures themselves were accepted by us as necessary solely upon their own merits. We shall, in the following sections of the report, discuss these proposals fully, and explain in detail the reasons which appear to us to necessitate their acceptance; for the present, we shall confine our remarks to the probable effect of these measures on the working hours of adult males.

49. As has already been stated, excessive hours are in general worked in textile factories only; it will not therefore be necessary to discuss the effect of our proposals except as regards these factories. In the cotton spinning mills of Bombay, we have ascertained, by a detailed count in two cases, that approximately 24 per cent. of the adult male workers would fall within the "young person" class, if the age limits were fixed at 14 and 16. With the age limits at 14 to 17, as we propose, it may safely be assumed that the number of "young persons" will be approximately 25 per cent. of the present total adult male staff in spinning mills, and in the spinning department of spinning and weaving mills. This estimate agrees closely with those given by the majority of the witnesses who were questioned on this point, and with the results of detailed counts made by us in a mill at Hathras (19 per cent.) and another at Sholapur (23 per cent.). In addition, from 3 to 5 per cent. of the staff in spinning mills will be composed of children, employed as doffers: the number is higher in Ahmedabad, where about 12 per cent. of the total staff are half-timers: in Bengal the proportion varies from about 10 per cent. to 12 per cent.: in Madras the average is about 20 per cent. It is, we think, a safe estimate to hold that approximately 30 per cent., or say one-third, of the staff in the spinning department will be composed of children and "young persons." That being so, it is clear that the hours fixed for children and young persons will absolutely determine the working hours of the whole department.

The great majority of the witnesses examined agree on this point. In one or two cases it was suggested that a restriction of this character could be overcome by working the children and "young persons" harder during their legal working hours, and giving the male adults a somewhat easier time then, in consideration of their working the mill or department, as the case might be, unaided for the last hour or hour and a half at the close of the day, when the children and "young persons" had left. Such a scheme would not, in our opinion, be successful. Men are not capable of doing doffing work so quickly and expertly as children; and it is very questionable whether they would, in any case, agree to do work which is regarded by them as peculiarly the work of children. Again, adult males are not good piecers; for that, nimbleness of fingers and small stature are essentials. Agreeing in this respect with practically all the managers who have been questioned on the subject, we are convinced that the hours of work fixed for the children and "young persons" would absolutely determine the working hours of all persons employed in cotton spinning.

50. In the mills which combine spinning and weaving, the percentage of "young persons" and women employed in the weaving and connected departments is not so large. Practically no children are employed in these departments. Actual count in two cases showed that, while only 4 per cent. of the hands in the weaving shed were "young persons," the number of women and "young persons" in the weaving, winding, drawing, sizing, and connected departments was in one case 17 per cent., and in the other 25 per cent., of the total hands employed there. The number of protected persons is perhaps not so large that their hours would determine the working hours of the whole department. But the internal arrangements of all spinning and weaving mills are based upon the assumption that the spinning and weaving departments will work for approximately the same hours, or at any rate that the weaving department will not work longer hours than the spinning department; and the machinery in the two departments is in almost all cases driven by the same engine. It would not be economical as a rule to run one department while the other remained idle. Again, the weavers in cotton mills are much more independent than the spinners, a fact which, as regards Bombay, appears clearly from the evidence. They earn higher wages, and they have in many cases refused to work the same hours as the spinners, when they considered these hours too long. We do not believe that any considerable number of weavers could be induced to accept a permanent system under which they would work on at night, after all the spinners had left the mill. Taking all these facts into consideration, we are satisfied that it will be found impracticable to work the weaving department of any cotton textile mill longer than the spinning department. The natural tendency to bring the working hours to a uniform level throughout the mill will be too strong to be resisted.

The restrictions which we suggest as regards the employment of "young persons," women, and children will not, theoretically, be sufficient to force millowners to limit the running time of their mills to 12

hours, inasmuch as it would be possible for them to work the children, women, and "young persons" in shifts spread over the whole period from 5-30 A.M. to 7 P.M., while the adult males worked without being relieved. But we are convinced that this system of shifts would be impossible in cotton mills, both on account of the disorganisation of work which would result from the frequent changes of the operatives, and also because of the scarcity of labour. Further, under the arrangement which we propose for intervals of rest after 6 hours' continuous working, the maximum working hours of adult males in cotton textile mills, which require half-timers "young persons" and women as an integral part of their staff, would necessarily be reduced to $12\frac{1}{2}$ hours in any one day. In these circumstances, it is extremely unlikely that owners would arrange to work all the protected classes of operatives in shifts, merely in order to run the mill for half-an-hour longer each day. The loss of production and wastage due to two stoppages in $12\frac{1}{2}$ hours actual running, as against one stoppage in a 12-hour day, would far outweigh any advantages that the former system might otherwise offer.

51. There will, besides, be a strong inducement to owners to adopt a 12-hour day if, as we propose, any millowner declaring for an absolute 12-hour day is relieved of the necessity of having the "young persons" employed in his mill certified for age or registered. We also rely to some extent upon the probable views and wishes of the workers in respect of this matter. With a 12-hour day, the women and children could go to the mill in the morning, with their male relatives; and all the members of a family—except the children on the morning shift—could return together in the evening. In addition to these reasons, we also attach considerable importance to the feeling which will, we consider, grow up among both owners and operatives in favour of an absolute 12-hour day. There is no doubt that a large number of mill-owners in Bombay are already anxious to revert to a 12-hour day, and we trust that our proposals will assist in crystallising that desire into an established custom.

52. In jute mills the immediate effect of our proposals will be to limit the running time from 5-30 A.M. to 7 P.M., as these mills cannot be worked without the assistance of the protected workers. The number of children, women, and "young persons" actually employed at present is about 50 or 60 *per cent.* of the whole staff; and the figure will of course be higher if the spinning and preparing departments only are considered. We trust that, as we anticipate in the case of cotton textile mills, the ultimate effect of our proposals may be the adoption of a 12-hour day in all jute mills; but we consider it improbable that this result will be attained at once. The complicated shift system which we have already described is in force in all jute mills, and is thoroughly understood by the workers; it is the practice in these mills to work at present within the permissible limits of time for the employment of women and children; and it appears probable that the existing system will be continued for some time, in order to obtain the maximum possible production. As we have already mentioned, however, no worker in the preparing and spinning departments of a jute mill is at present

employed for more than 11 hours on any one day. In the weaving department the formation of regular shifts, with definitely ascertained intervals, will become necessary, under the proposals which we intend to make, unless the compulsory intervals referred to in paragraph 86 are arranged for; and the probable effect of our recommendations as regards this class of workers will be to limit their actual working hours to $10\frac{1}{2}$ or 11 a day, consequent on the reduction in the running time of the mill from 15 to $13\frac{1}{2}$ hours. We consider it improbable that the looms will be run longer than the spinning and preparing departments, for reasons similar to those which we have already advanced while discussing the question as regards cotton textile mills; and we are disposed to think that owners will prefer to arrange for regular shifts in the weaving department, rather than stop the machinery after each period of six hours.

SECTION X.—*The effect on the production per operative in textile factories of working days of varying length, and the probable effect of a general 12-hour day.*

53. At the beginning of our enquiries, we were of opinion that it would probably be possible to obtain from a large number of textile factories accurate statements showing the effect on the production per operative of working days of varying length. The information which we have been able to collect on this subject is, however, of but little value; and a sufficient basis has not in general been given upon which to rest any definite conclusions. The conditions affecting production in Indian textile factories include so many factors, of which the length of the working day is only one, that it is quite impossible to base any opinion of a reliable character upon isolated statistics covering an indeterminate period, such as the majority of the mills have supplied. There is also the further complication that it is the custom, in many cotton mills, to employ a number of additional hands, roughly proportional to the increase in running time, when the mill changes its system and works for longer hours. This practice renders it impossible to obtain comparative figures of any value showing the effect of varying hours of work on the outturn of the operatives in such mills. After close examination of the statements dealing with this question, and of the evidence bearing on it, we have reluctantly come to the conclusion that the greater portion of the material supplied must be discarded as valueless for our purposes. The opinions given are of the most conflicting character, and they are in general based upon insufficient data, and upon a somewhat cursory examination of the question.

54. The only evidence upon which we can rely is:—

- (a) a statement, prepared from the records of three jute mills in Calcutta, giving the production statistics for two years when daylight working, and working for long hours by electric light, respectively, were resorted to; and

(b) the statements given, and the evidence recorded, as to production in the Buckingham Mills in Madras, the Cawnpore Cotton Mills and Elgin Mills in Cawnpore, and the Empress Mills in Nagpore.

55. The statement referred to at (a) above is reproduced as Appendix D. The conditions were normal

Examination of this material.

only for the first three months of each year, and the number of operatives remained the same throughout the whole period. Confining the comparison to these months, it appears that a decrease in the working time led to a decrease, but not a proportionate decrease, in production. The actual figures are:—

			Decrease in working time.	Decrease in production.
Mill A	..	..	17.24 %	10.80 %
Mill B	..	..	17.24 %	5.95 %
Mill C	..	..	17.24 %	13.90 %
Average	..	..	17.24 %	10.44 %

It is important to remember that the reduction in the length of the working day was made by the owners in all three cases in order to suit their own convenience; the workers were not aware of the reasons which led to a reduction of the working hours; and they were not in a position to form any estimate as to the length of time for which reduced hours would be worked. In view of the experience gained as to this matter in European countries, it is obvious that it would be unfair to accept these results as representing the effect upon production which would probably be produced by reducing the hours of labour to the same extent, either permanently, or after explaining matters to the workers, and fixing a definite time limit for the experiment.

56. A statement is appended to the evidence of Mr. Simpson, of Messrs. Binny & Co., Madras, showing the effect upon production of a 10-hour day in the Buckingham Mills. It was intended to run the mill 10 hours a day only, for a fortnight; but after the expiry of a week the piece-workers asked that the old system of working daylight hours might be reverted to. The figures given show that, while the average production *per hour* in lbs. was 1,116 for yarn, and 1,114 for cloth, during the preceding month, and 1,089 and 1,019, respectively, for the succeeding days of the month in which the experiment was made, it amounted to 1,122 for yarn, and 1,116 for cloth, during the eight days for which the 10-hour day was worked. The increase in production *per hour* was from 2 to 4 *per cent.*, with a decrease in time of approximately 17 *per cent.* The duration of the experiment was, however, so short that very little reliance can be placed on these figures.

The Cawnpore Cotton Mill has adopted a 12-hour day since February 1907, after experimenting as to the most suitable working hours from an economic standpoint. Their experience is that in a 12-hour day they obtain as much production as they formerly did in a 13 hour day. In the opinion of the manager, the workers adapt themselves to the conditions under which they work; where the hours are short, they work

harder and better ; where they are long, they dawdle over their work. There has been an increase of one-third of an ounce *per spindle per day* in the ring frames in the 12-hour day, as compared with the production in the 13-hour day, though this has been accompanied by a slight drop in the total production of the mules. The piece-workers earn as much in the 12-hour day as they did in the 13-hour day, rates having remained stationary. A statement as to the production of five pairs of mules in this mill, on which the attendance was most regular, is given in No. 96 of the inspection notes, and detailed enquiries which we have since made point to the conclusion that that statement may be accepted as a fair comparative representation of the work done. The gross outturn increased by approximately 8 *per cent.* in the shorter day, and the piece-work wages of the operatives rose in the same proportion. In this mill there is strong European supervision in all departments.

In the case of the Elgin Mills, Cawnpore, the management found that a 15-hour day led to bad work, great waste, and uneconomical working. They reduced the hours gradually to 12, and have been working 12 hours a day for the last eight years. Their experience is that the outturn and the piece-work wages are practically the same now as they were when long hours were worked. The piece-work rates have not been increased, but the earnings of the workers have remained practically stationary.

Mr. Bezanji Dadabhoy, manager of the Empress Mills, Nagpore, has appended to his written evidence certain statements showing the effect on production of working days of varying length. These statements show that, over a period of ten years, the production *per spindle per hour* is, on the average, higher the shorter the working day. The difference is not, however, large. The utility of the statistics is materially discounted by the fact that, as the mill works daylight hours only, the short and the long days occur at different seasons of the year, when the spinning conditions are not the same. It is difficult to determine the effect of this on production ; but there can be little doubt that, had it been possible to make a comparison for the same period of the year, the difference in favour of the short hour day would have been greater.

57. This evidence points to the conclusion that the production *per operative per hour* rises to some extent when the length of the working day is reduced. It is improbable that this increase in the hourly production would ordinarily be sufficient to maintain the gross production at the same figure, if the hours of work were diminished to any material extent ; but it is to be remembered that the statistics quoted were in some cases obtained under conditions which were certainly not favourable to any considerable increase in the energy or efficiency of the workers. In two cases only have we definite information as to the results of an experiment, carried out for a sufficiently long period, where the hours of work were deliberately reduced with a view to ascertaining the most suitable working day from an economic point of view. In both cases the results have been the same. It has been found that the 12-hour day is the most suitable, and that the gross

production in a 12-hour day exceeds or equals the production in a 15 or 13-hour day.

We do not desire to lay undue stress upon these results, as we are fully aware of the multiplicity of causes which prevent accurate comparisons being made between the conditions obtaining at different periods of time, or at different places; but we consider that they are entitled to considerable weight when an attempt is being made to forecast the probable effect of the general adoption of a 12-hour day. Our observations have satisfied us that the Indian operative is more adaptable than employers of labour in India have hitherto believed; and we incline to the opinion—though we readily admit that we cannot produce any satisfactory statistical evidence likely to convince others—that the general adoption of a 12-hour day in textile factories in India would not materially reduce the output below that at present obtained in 13 hours. Production would probably fall off at first to a considerable extent; but we believe that this would gradually be rectified, and that within a short time the production under a general 12-hour day would probably equal that now obtained by working for 13 or $13\frac{1}{2}$ hours.

SECTION XI.—*The formation of a "young persons" class, and the restrictions to be placed upon their hours of work.*

58. The summary which we have given of the information collected regarding the hours of work in factories in India shows that young adults are at present frequently called upon to work for excessive hours. In many cases obviously immature adults have been worked for as much as 15 hours a day; and we are satisfied that employment for such excessive hours must necessarily impair the physique, and stunt the development, of this class of workers. As Lieutenant-Colonel Mactaggart has noted, "young persons between 14 and 18 are just those who are likely to suffer permanently from the effects of overwork, even for a limited period. They are also the persons most likely to be driven to working for longer hours than they wish to work, and in any case they are, owing to want of experience, incapable of judging what is good for them." We agree with these views; and consider that, in the present conditions of employment in India, as disclosed in this report, it would be in the highest degree inadvisable to permit the unrestricted liberty which immature adults now enjoy in determining the duration of their hours of labour to continue. It is, we consider, the duty of the State to step in and protect a class which, as experience has shown, is unable to protect itself effectively; and we are convinced that nothing short of a hard and fast limitation of their working hours will suffice. We propose that the new class should include all workers from 14 to 17 years of age, and consider that their total actual working hours should be limited to 12 in any one day. The Hon'ble Mr. Vithaldas Damodher Thackersey differs from the rest of the Commission as to the hour limit, and thinks that the actual working hours of young persons should be limited to $12\frac{1}{2}$, and of children (paragraph 63) to $6\frac{1}{2}$ hours, a day.

59. The question of the formation of a class of "young persons" has been discussed by the Textile Factory Labour Committee of 1906, and by the Indian Factory Commission of 1890. Sir Hamilton Freer-Smith's Committee objected to the proposal mainly on the ground that it would occasion serious administrative inconvenience in actual working; the Indian Factory Commission of 1890, which was presided over by Surgeon-Major Lethbridge, Inspector-General of Jails in Bengal, was opposed to the creation of a class intermediate between children and full-time workers, on the ground that the members of such a class would be squeezed out of industrial employment if their hours "were restricted by law to any period between full-time and half-time work." In the alternative the Commission was of opinion that these operatives would in fact, and despite the provisions of the law on the subject, be employed either as children, or as adults. That Commission also considered it unnecessary to impose any restrictions as to hours of labour on persons over 14 years, as in India children of that age were frequently beginning to assume the responsibilities of family life. The majority of the witnesses examined by us were opposed to the formation of a "young persons" class, chiefly on the ground that it would occasion serious administrative inconvenience by introducing new complications, and by increasing the burden of responsibility which at present rests on managers. There is reason to believe, however, that the strength of the opposition to the proposal, as disclosed in the record of the evidence, is mainly due to the manner in which the suggestion was presented. The impression produced by the references to this matter in the papers sent to the witnesses apparently was that it was intended to create a class of workers, intermediate between children and adult male workers, fixing for this new class working hours which would not readily fit in with those of the other operatives. There was also the implication that it had become necessary to create such a class, owing to serious and habitual breaches of the law regarding the employment of children. Owners and managers were naturally unwilling to lend any support to such a charge by agreeing to the proposal; and they also dreaded the complicated restrictions regarding registration and medical examination which, on the analogy of the half-timer class, they doubtless assumed would be imposed. In many cases, when it was explained that the Commission did not contemplate the imposition of such restrictions if the factory affected were limited to a 12-hour day, and when it was made clear that the hours of work would fit in with those which we intended to propose for women and children, and with those which we hoped would ultimately be adopted generally for adult male workers, the opposition to the proposal was at once withdrawn.

60. The objections which have been taken on the ground of administrative inconvenience to the creation of a "young persons" class

Replies to these objections. will, we consider, be met to a large extent by the suggestion which we now make. We propose to exempt all factories which undertake to work for not more than 12 hours in each day from the necessity

for registering their "young persons" and of having them certified for age. A factory accepting this concession will render itself liable for employing *any* of its operatives over 12 hours, as if they were "young persons"; but exceptions will be made in favour of the few adults employed in the boiler-house, engine-room, calendering, and other departments who have ordinarily, or occasionally, to come earlier or stay later than the main body of workers. We consider that the concession is one which can safely be offered to factories working not more than 12 hours a day, and also that it will be some inducement to adopt a 12-hour day.

The administrative objections to our proposal will be still further minimised by the adoption of the suggestion that children, who have worked as half-timers, should be permitted to enter the "young persons" class without further medical examination, when the medical certificates obtained by them prior to their admission as half-timers show that they have attained the age of 14 years. In the great majority of cases there will therefore be no medical examination for age prior to admission to the "young persons" class. We also propose that no examination for physical fitness should in any case be made as regards "young persons." As has already been stated, the physique of this class is, on the whole, satisfactory; out of over 1,000 "young persons" specially selected for examination, less than $2\frac{1}{2}$ per cent. were considered physically unfit, apart from age; and, as we have explained, the young adults specially selected for examination were picked out from the main body of workers either on account of their apparent youth, or because of their stunted or weakly appearance. In these circumstances, it is apparent that the percentage of children over 14 years of age who are physically unfit to work a 12-hour day must be practically negligible. In view of this fact, and of the practical difficulty of arranging for the medical examination of so large a body of workers, we are of opinion that no examination for physical fitness need be required prior to the employment of "young persons."

The other objection which has been advanced against the proposal to form a "young persons" class is, in our opinion, met by the definition which we propose to give of that class, and by the nature of the restrictions which we suggest as to their employment. It is obvious that a class of operatives working double the hours proposed for children, the same hours as women, and the same hours as the great majority of adults, will not be liable to be squeezed out of the ranks of industrial workers.

61. We have, after careful consideration of the question, decided to advise that all workers from 14 to 17 years of age should be included within the "young persons" class. This decision is based upon the observations made during the course of our tour, when thousands of boys between the ages of 14 and 17 were observed, and nearly two thousand were minutely inspected. We regret that we are unable to agree with the conclusion arrived at by the Indian Factory Commission of 1890, that "Indian boys of 14 are, in the majority of instances, either married or about to be married, and begin to assume the responsibilities of family life." When we began our investigations, we shared

that opinion; it soon became apparent, however, that it was not in accord with the facts, at least in so far as factory operatives as a class are concerned. A thorough physical examination of large numbers of these immature adults was made by us, and we are satisfied that the nubile age of males of this class is considerably higher than the Commission of 1890 assumed. The limits of age which we propose are, in our opinion, suitable. We would point out that one of the main objections taken by the members of the 1890 Commission to any increase in the age limit above 14 years—the objection that “young persons” over that age would either be deprived of employment altogether, or forced to work as half-timers on half pay—is met by the fact that the class of “young persons” which we propose to create will, in the great majority of cases, work the same time as the adult males, and double the working time of the children. We have already explained that there is a special demand for this class of workers in all textile factories; and we see no reason to believe that the restrictions which we propose to place upon their employment will result in any reduction of the wages which they now earn.

SECTION XII.—*Children or half-timers; the age limits to be fixed; and the hours of work to be permitted.*

62. Agreeing in this respect with the great majority of the witnesses examined, we consider that the present age limits for the employment of children need not be altered. Although it is clear that the strain of the present working hours has affected children more severely than any other class, we consider that the proper remedy is to reduce the number of working hours, rather than to increase the age limit. It has repeatedly been pointed out that parents in India desire their children to become wage-earners at the earliest possible moment; there is no question of conscious cruelty, but children are in fact made to work as soon as they are capable of earning even the smallest addition to the family income. In these circumstances, if the minimum age limit for the employment of children in factories were increased, it is inevitable that they would merely be forced to perform other, and probably more laborious, work until they had attained the age qualifying them for factory employment. We see no reason to suggest any alteration in the upper limit of age for half-timers; under our proposals children will, after reaching the age of 14, be protected from the consequences of excessive work until they attain the age of 17 years.

63. In view of the results of our investigations as to the physical condition of half-time children employed in factories, we are strongly of opinion that it is necessary to reduce the severe strain under which they at present work. We have explained our reasons for rejecting the suggestion to increase the age limit of this class, and the only practicable alternative which will secure our object is to reduce the number of hours for which they are now permitted to work. It is frequently stated that the children in a textile factory are not

worked hard; that they enjoy numerous intervals of rest; that the work required of them is light and intermittent in character; and that they are not subjected to a strain comparable with that borne by the other workers. We do not entirely agree with these views. In all textile factories it is essential that the doffing should be done as quickly as possible; and the children undoubtedly work hard at each doff. Further, it is naturally the aim of the factory manager to arrange matters so that the children are employed as continuously as possible on doffing work; and, though they are usually alert enough to circumvent these intentions to some extent, yet the work is undoubtedly much more constant than has been supposed. In jute mills the doffing work is very hard while it lasts; all the apparatus dealt with is heavier than in cotton spinning; and the children are urged to the utmost speed, as the spindles fill very quickly, and doffing is much more continuous than in a cotton mill. The doffers in the jute mills work with wonderful rapidity. In cotton mills, though the work is neither so hard nor so continuous as in jute factories, the children work in rooms full of noisy machinery, sometimes badly ventilated, and frequently excessively hot. In our opinion there can be no question that the children employed in textile factories are subjected to a severe strain during their working hours; and we were specially struck with the tired and listless look of the children in factories which we visited at the close of hot working days. In view of the experience which our investigations have enabled us to acquire as to the general physical condition of the half-time operatives, we are of opinion that children over 9 and under 14 years of age should not be permitted to work on any one day for more than 6 hours. In suggesting this period, we have borne in mind the absolute necessity of proposing a limit of time which will fit in with the other limits which we propose as regards the hours of work of "young persons" and women, and with our reasonable anticipations as to the probable hours of employment of adult males. This point, the vital importance of which was strongly emphasised by the Factory Commission of 1890, has not hitherto always been kept in view; but in all cases where it has been lost sight of, the limitations which ignored it have, as a matter of actual practice, been disregarded. The scheme which we propose is not open to that objection. We anticipate that, if our suggestions be adopted, the great majority of textile cotton mills will work a 12-hour day; male adults, women, and "young persons" will then be employed during the whole running time of the mill, while the children will in the majority of cases work continuously for half that period, the sets changing about noon. The present limit of seven hours' work for children was fixed mainly in consideration of the fact that, as all factories worked daylight hours, the maximum working time could not exceed $13\frac{1}{2}$ hours a day; the limit for children was therefore fixed at half that period, allowing one quarter of an hour's margin in order to cover all possible cases. It was not anticipated, however, that children would be worked, on the average, for more than 6 hours a day throughout the year, or for more than $6\frac{3}{4}$ hours, as a maximum, during any one day, even in the hot weather season. The alteration which we now propose in the legal working

hours of children will give effect to the intentions of the Commission of 1890; and we trust that the administrative arrangements which we propose will be sufficient to secure that the new limit is not evaded or ignored, as the present limitation has been.

SECTION XIII.—*The restrictions to be placed upon the working hours of women.*

64. In a previous portion of this report, we have pointed out that, as the restrictions at present imposed on the employment of women are suited neither to the operatives themselves, nor to their employers, they have been ignored in practice. We have also expressed the opinion that the general physical condition of the female operatives in the various factories visited was uniformly excellent. In these circumstances, and in view of the advantages which would follow from the adoption of this course, we consider that it would be advisable to allow women to work for the same hours as "young persons," i.e., for not more than 12 hours in any one day, with at least one interval during the day. We are satisfied, from our own observations and from the evidence of the medical witnesses examined on the point, that women can work these hours without danger of injury to their health. Lieutenant-Colonel Mactaggart expresses the same opinion as the result of his inspections throughout the Bombay Presidency. The change which we suggest will, if it be adopted in actual practice, tend materially to simplify the organisation of work in most factories employing women; while, if the new conditions should prove distasteful to them, they will still be able to obtain employment in the reeling and winding departments in textile mills, where practically all female workers not engaged in seasonal factories are at present employed. The work there is entirely piece-work; and the women would still be able to come and go freely, as at present. Women can now work for 11 hours, with an interval of $1\frac{1}{2}$ hours, making the total period of employment $12\frac{1}{2}$ hours *per day*; this total period will not necessarily be extended under our proposals. The alternative which we suggest will open a new avenue of employment to women; and, if we may judge from the remarks recorded on this subject by the Indian Factory Commission of 1890, and from our own observations, the measure will be popular with the operatives themselves, and will enable them to recover the position which they held prior to the introduction of the present limitations on their hours of work. Doubts have been expressed as to whether women would in any case work in the preparation, spinning, or weaving departments of a mill alongside male workers; and it has been stated that their form of garment renders their employment in those departments difficult or impossible. Two of the members of the Commission, who have visited Pondicherry, inform us that in the mills there, where women are permitted to work the same hours as the men, a large number are employed on the ring frames: these women work about 12 hours daily throughout the year, and are a robust, healthy-looking lot. Prior to the introduction of the present restrictions, women were also employed to a large extent in the spinning departments of the

Ahmedabad mills. If the removal of these restrictions should lead to the employment of women to a larger extent in textile factories, that will assist in relieving the present scarcity of labour. It will also bind down employers of labour in these factories more closely to the acceptance of a general 12-hour day. It is, however, essential to the success of our proposals that the working hours for women should be identical in all respects with those fixed for "young persons," and that the same intervals of rest should be prescribed. If any divergence be permitted, it would become difficult or impossible to arrange for the employment of women in the departments in which children, "young persons," and adult males are working; and, as formerly happened, they would in practice be excluded from these departments of the factory.

SECTION XIV.—*The limits of time within which "young persons," women, and children should be allowed to work.*

65. Women and children are, under the present law, permitted to work between the hours of 5 A.M. and 8 P.M. : in the case of women these time limits may be disregarded if a system of employment by shifts is in force, and the arrangements for the working of these shifts are approved by the local inspector. The effect of these provisions upon the operatives is seen most clearly in the case of the Calcutta jute mills. About half the children are required to be at the mill by 5 A.M., and they have frequently to walk two or three miles before arriving there. The following facts were ascertained by us on our visit to a certain jute mill near Calcutta, and are quoted from our inspection notes :—

"The operatives are mostly Bengalis living in surrounding villages up to 3 or 4 miles off. The first warning whistle is blown at 3 A.M. Enquiry showed that a half-timer, a child of not more than 7 years, selected by the Commission at random, had to leave his home every morning at 4 A.M. and walk 2 miles to the mill."

Children employed in the set which begins work at 5 A.M. are generally free to leave the mill at 3 or 3-30 P.M. ; while those employed in the set which works till 8 P.M., the closing hour of the mill, are obliged to attend at 9 A.M. The children therefore must remain in the mill for 10 or 11 hours each day ; and they have either to be up very early in the morning, or to remain up till a comparatively late hour at night. The evidence of the workers examined, and the opinions given by the various managers consulted on this subject, show clearly that the necessity for coming to the mill so early as 5 A.M. is regarded by all the workers, adult males, women and children alike, as a serious hardship ; and it appears probable that the early start is responsible to a considerable extent for the shortage of labour. The hardships experienced under this system are intensified in some cases owing to the fact that the children and women not infrequently remain in the mill until such time as they can be accompanied to their homes by their male relatives. Popular feeling is strongly against the practice of allowing women to go out alone during the hours of darkness, and in many cases a woman may be compelled to defer her departure from the mill for an hour or two, till her husband or some relative can

accompany her. The period of absence from home may in this manner be extended by one or two hours, while from half an hour to three-quarters of an hour may be spent in walking home from the mill. In this manner the total period of absence may extend to 14 or 14½ hours in the case of children, and possibly to a longer period for some women. We are satisfied that, under the conditions prevailing in India, these long absences from their residences must be detrimental to the health of women, "young persons," and children. The children cannot be properly fed if they or their mothers remain absent from home for 14 hours or so each day; and the strain of the work in the mill must necessarily tell on them more severely if they are obliged to remain in the mill compound for some hours after their legitimate work has been finished.

66. For these reasons we consider that no woman, "young person," or child should be permitted to work except between the hours of 5-30 A.M. and 7 P.M., local mean time. This limitation will, we consider, be effective in checking to a considerable extent the abuses which exist at present owing to the employment of women and children at hours which are not only extremely inconvenient to them, but also injurious to their health. It will protect to some extent all women operatives who have household duties to perform, and will thereby tend to promote the general health of the whole body of workers. And it will also, we anticipate, render work in textile factories more attractive to the protected persons, and so increase the supply of labour. The 1½ hours over and above the 12 hours of actual employment leaves an ample margin for the longest intervals of rest likely to be given in any factory.

67. As an exception to this general rule, we propose that all women and "young persons" employed in *cotton ginning factories* should be permitted to work for 12 hours without any limitation as to the period within which they can be employed. We have already explained the system in force in these factories, the short duration of the busy season, and the character of the employment which they offer. Men are seldom employed on gins; the work is so light that women are peculiarly fitted to undertake it; and, as it has now come to be regarded as a woman's work, difficulty would probably be experienced in getting men to undertake it. The majority of the witnesses examined on this point were of opinion that, if women were prohibited from working on gins at night, it would be difficult, and in some cases impossible, to obtain male labourers to take their place. It is also certain that any such prohibition would not only increase the cost of ginning, but would also diminish the opportunities of employment offered to women. We have pointed out, in a previous section of the report, that ginning factories afford a considerable number of women employment suited to their strength, at a time when these women would find difficulty in obtaining work at their ordinary avocations; and we are opposed to any measure which would withdraw from this class of poor people a congenial and fairly well paid employment. The objections ordinarily advanced to the employment of women at night do not apply with much force to the

case now under discussion. The majority of the women employed in ginning factories are past middle age; and they work, seated, in one room, where male workers only come occasionally. No children are employed inside ginning factories, and infants are very seldom seen there. The physical disadvantages to the younger generation, and the moral objections as regards the employment of the women themselves, are therefore very much less than in the case of any other form of factory labour.

68. We also think that the Imperial Government should have power to permit, in exceptional cases, the employment of "young persons" at night, provided always that they are not employed for more than 12 hours out of the 24. It has never been the practice in Indian textile factories to work day and night with two shifts, as in China and Japan. But it is within the range of possibility that the trade might find it necessary to adopt all-night working in self-defence against foreign competition; and the contingency, remote though it appears to be, ought to be provided for. We would not, however, extend the concession to the employment of either women or children at night.

69. We have proposed that the hours within which it will be permissible to employ women, "young persons," and children in ordinary factories should be fixed at 5-30 A.M. and 7 P.M., *local mean time*. It is evident that if Indian standard time were recognised for the purpose of this provision, there would be wide variations in the actual time of starting and stopping work at different places; for instance, mills at Karachi would start work 90 minutes earlier in the day than those in Calcutta. It will therefore be necessary for each Local Government to fix once for all, for each industrial centre where local time is not officially recognized, the equivalent of 5-30 A.M. and 7 P.M. local mean time in terms of Indian standard time, to the nearest quarter of an hour; we do not recommend a closer approximation. We do not consider that any difficulty will be experienced in giving effect to this in practice.

SECTION XV.—*The arrangements to be made for half-timers' sets.*

70. The system upon which children are employed at present varies from factory to factory; in some it is the custom to employ the half-timers in morning and afternoon sets for the full period of seven hours continuously, or with an interval of half an hour only; in others the children are employed on what we call the "split set" system, that is, they work for about half the total time in the morning, and then, after an interval of three hours or so, complete the remaining portion of their seven hours in the afternoon. We have already explained how the latter system lends itself to the evasion of the law. It undoubtedly facilitates the working of children in the same mill for hours far in excess of the legal limit, and for this reason we should have preferred if the system could have been entirely prohibited. But it is actually in force at present in some cotton mills, and in practically all jute mills. We have discussed its working in the former case; in the latter it is

thoroughly understood by the children, and, except in one particular to which we have already referred, it is carried out in a satisfactory manner. The absolute prohibition of the system would practically force jute mills to employ a much larger staff of children, some of whom would work for less than 6 hours a day. We are of opinion, therefore, that the system cannot be entirely disallowed, and recommend that it be permitted subject to the modification explained in the succeeding paragraph.

71. We are satisfied that the reasonable requirements of all the factories concerned would be met by an arrangement under which children could be employed either continuously for 6 hours, or in broken periods not exceeding 6 hours in all, provided always that the total period of employment was comprised within $8\frac{1}{2}$ consecutive hours. This limitation would not interfere with the working of jute mills, and would enable cotton mills adopting the "split set" system to retain it, with slight modifications. Under our proposal, no child need remain on the mill premises for more than $8\frac{1}{2}$ hours in any one day. It is also probable that the opportunity which the system affords of giving an interval of two hours during the period of the child's employment might be utilized by some mills in order to prevent the children from obtaining employment for the second half of the day at another factory. Further, the system could probably be worked so as to give the children an interval of about two hours in which to attend school.

72. Except as regards ginning factories, where the conditions are peculiar and will be discussed in a succeeding section of the report,

Definition of shifts.

we consider that all shifts of workers or sets of children must be definitely fixed as regards the hours of work, and the allocation of the workers to definite shifts or sets, before they can be recognized as shifts or sets for the purposes of the law. Unless this condition be insisted upon, it will be impossible in the case of large factories to control effectively the hours of work of any class of operatives, or to detect or punish evasions of the law.

SECTION XVI.—*The certification of children for age and physical fitness.*

73. The employment of children under nine years of age in factories constitutes one of the most serious abuses which we have discovered.

The certification of children for age and fitness.

The preceding sections of the report deal fully with this matter, and show the extent to which the practice of employing under-age children obtains. We are strongly of opinion that this wide-spread abuse cannot be effectually prevented unless a hard and fast rule be laid down that no child shall be permitted to work in any factory unless certified to be not under the age of nine years. We are also convinced, as a result of the observations regarding the general health and physique of child workers, which have been dealt with in a preceding section of this report, that an examination for physical fitness is necessary prior to permitting a child to undertake factory work.

74. The certificate of age and physical fitness should be obtained from a certifying surgeon appointed for this purpose. Each certifying

Arrangements for procuring certificates.

ing surgeon should have a fixed office at which he would attend daily, at a stated hour, to examine any persons applying for certificates. He would also visit each mill as often as possible to grant certificates to children assembled there for examination. But besides this, to expedite certification at the mills, the certifying surgeon for each centre should be authorized to approve of any medical practitioner as a *provisional* certifying authority, if he is of opinion that that practitioner can be trusted to carry out the work properly, and that he possesses qualifications sufficient to enable him to pronounce accurate opinions as to the physical fitness and age of children. Provisional certificates should remain in force only until the first visit of the certifying surgeon to the mill in which the child works. In all cases, the provisional certificates granted should be countersigned by the certifying surgeon, after a personal examination of the children at the mill; and if the certifying surgeon refuses to countersign any certificate, the child to whom that certificate was granted should be debarred from working in a factory until a proper certificate of age and fitness has been obtained. We consider that it would be an unnecessary refinement, and that it would occasion serious practical difficulties, to limit the certificates of physical fitness to particular occupations, or to individual factories. The certifying surgeons, where they are appointed solely for this purpose, should in all cases be paid entirely by the Government; they should not be permitted to undertake private practice; and they should be prohibited from receiving any remuneration, direct or indirect, from factory-owners. Where it is impracticable to appoint a special officer solely for this work, it should be undertaken by the Civil Surgeon of the district, or by such other medical officer as the Local Government may appoint. In such cases the certifying surgeon should not be permitted to accept any remuneration from the factory-owners, direct or indirect, in respect of his certifying work. He should be paid for that solely by the Government.

75. We consider that all inconvenience to factory-owners in respect of delay in certification will be obviated by the provision which recognizes the provisional certificate of any approved medical practitioner. The majority of the large mills employ their own medical officers, who attend regularly at the mill each day. In cases where the medical officer of the mill was, in the opinion of the certifying surgeon, a suitable person to whom to entrust the duty of certifying the children provisionally, all candidates for employment could be examined by him each day at the mill. In other cases, it will generally be practicable for the mill-owners to arrange for the attendance of an approved medical man, at times convenient to themselves. We consider that, as regards the larger factories in India, which are situated at four or five industrial centres, it will be possible to arrange matters so that the certifying surgeon will visit each mill once in every seven days. The provisional certificates will, however, remain valid for the period between the certifying surgeon's

visits, in all cases. All provisional certificates granted will be scrutinized by the certifying surgeon, who will re-examine the children; and in this manner an effective check will be maintained over the proceedings of the provisional certifying officers. As the certifying surgeon should have the power to revoke any authority granted to sign these certificates, it is improbable that the system we propose will be abused.

76. We consider that it would greatly facilitate inspection if the certificates of age granted to children were carried by them while at work. At Ahmedabad, and some other places in the Bombay Presidency, the children kept their certificates in small tin cases hung round their necks, and under this arrangement we found that they could be identified with ease and certainty. We would strongly recommend the general adoption of this system, although we do not see our way to prescribe it as a compulsory measure.

77. We are strongly of opinion that the certifying surgeons solely appointed for this work should receive no remuneration, direct or indirect, from factory-owners. We cannot approve of a system tending to create any bias, however small, in favour of arranging matters in a manner acceptable to millowners. In the case of certifying surgeons not specially appointed for the purpose of certifying children for factory employment, we should have preferred a system under which these officers also would have been absolutely independent of factory-owners. That is, however, impracticable in cases where the certifying surgeon is, as he usually will be, the Civil Surgeon of the district; but even in such cases we are strongly of opinion that no fees for certifying work should be paid to him by employers of labour. We consider that the certifying of children for factory employment should be regarded as one of the ordinary administrative functions of Government; and that, as such, it should be paid for by the Government itself, the 4-anna fee at present charged for each certificate being abolished. Children coming for employment for the first time often have not got the 4 annas to pay, and in such cases there is either delay, or the mill pays the fee and keeps the certificate. The abolition of the fee will simplify matters much, and be received as a welcome concession at a time when the certification of all children is going to be strictly enforced. In any case the certificate should always be considered the absolute property of the child. The question of compensating medical officers for the loss which they would in certain cases sustain under such an arrangement will, we presume, be considered by the Government.

SECTION XVII.—*The application of the Act to ginning and other seasonal factories.*

78. Under section 2 of the Indian Factories Act, all factories which work for "less than four months in the whole in any one year" are excluded from its

Proposal to apply the Act to all seasonal factories.

scope. No definite test period is, however, prescribed; and in consequence different views have been held as to the operation of the words quoted. On the one hand it is contended that, if the factory works for less than 120 days in any one year, it does not come under the Act for that year, and it also remains exempt from the Act until it can be proved to have worked for a longer period, in which case it again becomes subject to the provisions of the Act, but not with retrospective effect. On the other hand it is urged that, if a factory has once come under the Act, it must be presumed that it is likely to work for more than four months in the year until the contrary has been clearly demonstrated; and the factory must remain under the Act until satisfactory evidence covering a reasonable number of years, and warranting its exclusion, has been produced. Difficulties have also been experienced as regards the position of seasonal factories opened for the first time. In such cases there is no evidence either in favour of inclusion or exclusion; and the factory usually works unrestrictedly until definite evidence is obtainable, showing that it has in fact come within the scope of the Act. It is obvious, however, that in all such cases, and in the case of factories excluded from the scope of the Act because they have been shown to have worked for less than four months in one year, the factory will have unrestricted liberty as regards practically the whole of one season's work at least, even if, during that season, it does in fact work for more than four months. These difficulties in the interpretation of the present Act, and inequalities in its operation, occasion considerable trouble to Government officials and to factory-owners. Further, there are obvious objections to having two factories of a similar character, side by side, working precisely the same hours and for the same period, of which one is under the Act, and subject to all the limitations which the Act imposes, while the other is entirely unrestricted.

79. As a result of our investigations, we consider that the seasonal factories which are at present excluded from the Act solely on the ground that they do not work for more than four months in any one year should be made subject to its provisions. These factories are, in general, cotton ginning factories, and they are usually constructed upon the cheapest possible lines. Gins are often erected in poorly constructed buildings; the floor upon which they are supported is frequently so badly constructed that it vibrates to an excessive extent; the machinery and boilers are sometimes bought second-hand; and the management is in many cases unsatisfactory and inefficient. The risk of accident, and the probability of serious abuses being practised, are much greater in such factories than in larger concerns. Their complete freedom from control is also prejudicial to the interests of the larger and better managed factories where sound machinery is used, adequate supervision maintained, and the provisions of the Act are generally observed. We consider it unnecessary to elaborate the arguments in favour of the proposal that the limitation of the scope of the Act to factories working for not less than four months in the year should be abolished, as this amendment of the law was accepted by the Government of India in 1905, after consulting all the Local Governments on

the subject. It will be sufficient to say that the present limitation is indefinite, and difficult to work in practice; that it excludes from all control a class of factories where abuses are peculiarly liable to occur; and that our investigations enable us to say positively that the withdrawal of this limitation will inflict no appreciable hardship upon any industry.

80. We recommend, however, that the proposals which we have made as regards factories generally should be modified in two respects as regards cotton ginning factories. In the first place, we consider that women and "young persons" should be allowed to work in gins at night. They should, we consider, be allowed to work, by day or by night, for not more than 12 hours out of the 24. We have already given our reasons for this recommendation. In the second place, we propose that in the case of ginning factories running for more than 12 hours a day it should be considered a sufficient compliance with the law limiting the hours of work of women and "young persons" to 12 in any one day if additional workers are employed to the extent necessary to reduce the hours of work of each woman or "young person" to not more than 12 hours, assuming that the work, during the total period for which the factory runs, is uniformly distributed among all the workers. For example, if a factory with 20 gins, for which 20 women would be required for work on the gins, runs for 16 hours, it would be accepted as a sufficient compliance with the law if $\frac{20 \times 16}{12}$, or 27 women, were actually engaged for work on the gins only. We are of opinion that it would be difficult, and possibly impracticable, to attempt to enforce a definite shift system in such cases. The majority of the ginning factories are small concerns which cannot bear the cost of highly skilled management, and the arrangement of definite, ascertained shifts in such cases would probably be beyond the abilities of the staff. The workers are not accustomed to the shift system, and would not readily understand it; on the other hand, the method of obtaining relief by employing a number of additional workers is familiar to them, and there is no reason to think that it would not in actual practice secure the object aimed at—the restriction of the hours of work of women and "young persons" to not more than 12 on any one day. There is the further point that the system which we propose to allow in this case is not open to the objections which render its adoption absolutely impracticable in larger factories. The ordinary ginning factory is in a small building of one room, and employs only from 50 to 100 hands: in these circumstances inspection is always easy. The system which we propose to sanction has been working in a satisfactory manner in Khandesh for years. Experience there has shown that it is effective and practicable; and in these circumstances we see no reason for refusing to recommend its general adoption in similar cases elsewhere, even although the proposal is open to certain obvious theoretical objections.

81. A large number of the witnesses examined have suggested that it would materially assist the ginning industry if the factories

The Sunday holiday in ginning factories.

were exempted from the necessity of granting the Sunday holiday. The work comes in in rushes; and it is often very inconvenient to close down on Sunday. They would prefer an arrangement under which the factories could close on any four days in the month selected by them. This would admit of cleaning the boilers, overhauling the machinery, and effecting general repairs, without encroaching on the short period available for ginning each year's crop. It appears, however, that the Local Governments have in certain similar cases taken action under section 5-B, sub-section (2), clause (c) of the Act; and in these circumstances we see no necessity to make any definite recommendation in respect of this matter. Any doubt which may at present be felt as to the applicability to such cases of the provision quoted will be removed if the wording which we suggest in the draft Bill appended to this report be adopted.

82. One point which primarily concerns seasonal factories, but which affects other factories also,

Outside labour in seasonal and other factories.

remains to be noticed. In ginning factories it is the custom for the owners of the cotton sent for ginning to engage workers to stack it in the compound, and to pick it over there, in order to remove the "yellow stain." These workers have nothing to do with the ginning operations, they do not enter the factory proper, and they are in no way under the control of the owner of the factory. Similarly in rice mills the paddy is brought from the boats to the mill by coolies who are engaged solely for this work by the mill, or by a contractor, and who do not enter any portion of the factory where machinery is in operation. The Government of Burma has directed that such workers should not be regarded as within the scope of the Act, and we agree with that view. Although they may, technically speaking, be employed within a factory, their work is not factory work in the ordinary acceptation of that term; and there could be no justification for bringing them within the scope of the Act while dock labourers or agricultural labourers, for example, remained outside its purview. For the same reasons, we consider that the class of workers we have already referred to, who are employed in the compounds of ginning factories, should be excluded from the scope of the Act. Cases of an analogous character occur in practically all factories, and we are of opinion that they should be similarly dealt with.

SECTION XVIII.—*The question of exempting mills working without artificial light from certain restrictions.*

83. A number of the witnesses examined by us were in favour of what is termed the "natural working day," that is, a day extending from dawn to dusk, and therefore varying in length according to the season of the year and the locality. Most of them were in favour of allowing mills fitted with electric light installations to work a fixed 12-hour day throughout the year, while mills not provided with installations would be allowed to work the natural day. They contended that it is the custom in India to work from dawn to dusk; that the mill hands throughout the country thoroughly understand the system, and that there is no evidence to show that it places

any undue strain on them. Throughout the year, the average length of the working day, under the daylight system, would be less than 12 hours, while in the hot weather the longest day would not exceed $14\frac{1}{2}$ hours ($13\frac{1}{2}$ of actual work) in Northern India, or $13\frac{3}{4}$ hours ($12\frac{3}{4}$ of actual work) in Bombay. It is urged that these hours cannot be considered as in any way excessive, considering the fact that the length of the actual working day in the cold weather would not ordinarily exceed 11 hours.

84. We have carefully considered this question, and are unable

Objections to the proposal.

to agree with the arguments advanced. We consider that

a system which renders it possible to keep the operatives in or about the mill for $14\frac{1}{2}$ hours, and actually at work for $13\frac{1}{2}$ hours, during the hottest period of the year, and which precludes them from enjoying a single hour of daylight at their homes, throughout the year, except on prescribed holidays, stands self-condemned. The custom of *actually* working labourers for these long hours did not exist in India before textile factories were established. Further, under the system it would be necessary to permit "young persons" to work for the full running time of the mill, while children would be required to work for half that period. We object strongly to any proposal which would admit of children and "young persons" being worked for more than 6 and 12 hours, respectively; the children employed in factories are, as a rule, weakly and of poor physique, and we are deliberately of opinion that it would be wrong to impose on them this extra strain at the hottest time of year. We also believe that, so long as daylight hours are worked, little improvement can be expected either in the habits of the workers, or in their efficiency. The hot weather days are so long, and the climatic and other conditions are then so trying, that the operatives naturally dawdle as much as possible over their work; and the habits which these conditions induce and intensify are so much in accord with the natural inclinations of the workers that the tendency is to continue these leisurely methods throughout the year. Another objection to which we attach great importance is that, under the arrangements proposed, it would be possible for many of the operatives to work very long hours during the hot weather, by daylight, and then to accept employment in the cold weather in mills working a fixed 12-hour day by electric light. Large numbers of operatives are always willing to work excessive hours, if they can thereby earn correspondingly higher wages. We are also opposed to the suggestion on administrative grounds; it would in our opinion be almost impossible to work the two systems side by side in the same place.

85. The Hon'ble Mr. Vithaldas Damodher Thackersey does not

Examination of the Hon. Mr. Vithaldas' minute of dissent.

agree with our views in respect of this matter, and he has explained his position in a minute of dissent appended to this report.

We have already dealt in the preceding paragraph with some of his arguments; but, as the proposal is put forward mainly in the supposed interests of the manufacturers, without much regard to its

effect on the operatives, we consider it necessary to reply briefly to some of the specific contentions advanced in the minute.

In the first place, we would point out that the opinion of the Factory Commission of 1890 cannot be cited in support of the proposal, inasmuch as the possibility of working a fixed 12-hour day all the year round did not occur to them. Electric light was not introduced in Indian mills until about 1893; and the Commission were not, therefore, in a position to pronounce any opinion as to the relative advantages of the two systems now under discussion, or as to the advisability of permitting these systems to remain in force concurrently. Similar remarks apply to the reference which has been made to the debates in Council in 1891. The introduction of electric light into the mills has entirely altered the aspect of affairs since then; and the conditions have been further modified by the growth of the abuses which we have alluded to in the preceding sections of this report.

It is true that, as our colleague points out, several millowners and managers, who are strongly opposed to excessive hours of work, are nevertheless in favour of the daylight working day. The witnesses who have given evidence in this sense are in general owners or managers of mills not fitted with electric light; and there is reason to believe that their preference for the daylight working day is due, in a great measure, to the fact that they are suspicious and uneasy regarding the probable effects of the general introduction of electric light in mills. Ample grounds to justify this attitude are to be found in our report; but the proposals which we intend to make for improving the administration of the Act will be sufficient to prevent abuses similar to those which have occurred in the past from recurring, and will also afford satisfactory guarantees that the system of working by electric light will be freed from the excesses which have hitherto characterised it.

Mr. Vithaldas next contends that the operatives themselves would prefer daylight working hours to a fixed 12-hour day. The point is, in the last resort, one of individual opinion; but we do not agree that he has correctly represented the views of the majority of the operatives on this question. The President was present on all the occasions on which operatives were questioned regarding this matter while Mr. Vithaldas was not; and the impression left on his mind is that the operatives would prefer a 12-hour day. To the average mill-hand, working by electric light means long hours; and the opposition to long hours is so strong among the operatives that, when they were questioned, any reference to electric lighting was usually drowned in shouts of "We want no electric light." It was extremely difficult to get them to grasp the idea of a fixed 12-hour day all the year round; and more difficult still to get them to accept our assurances that under that system the electric light would be used only for two or three months in the cold weather. Most of them imagine that their only protection against the excessive working hours of the past lies in the entire abolition of electric lighting in mills, and it was in this sense that many of their replies were given.

The argument advanced by our colleague that the operatives will not be worked hard during the long days, as the spinning conditions are then favourable, does not appear to us valid. In the first place, the conditions favourable to spinning do not continue throughout the whole period during which long hours would be worked; in certain parts of the country these conditions do not obtain for more than two or three months. In the second place, as spinning is easy during the rainy months, owners can work on an inferior quality of cotton during that period. The practice is, we understand, common in Bombay; and this would usually counterbalance any advantage which the operatives would otherwise gain owing to the more favourable climatic conditions. Lastly, and most important, we cannot admit that the difference would, even in the most favourable circumstances, be sufficient to counteract the effects of the increased strain thrown on the operatives by the long hours of work during the hottest and most trying months of the year.

We have no information enabling us to check the details of the calculation made regarding the number of mills in India fitted with electric light; but we understand that all mills in Native States have been included in the figures given by Mr. Vithaldas. As regards Southern India generally, the geographical situation is such as to secure what is practically an average 12-hour day, by natural light, throughout the year. Electric light would not be installed in such mills, unless with the deliberate intention of working excessive hours regularly. In Northern India all the mills have electric light. It is clear, therefore, that the question really narrows itself down to one affecting Bombay—the chief cotton centre in India. In Bombay there are 85 mills, and of these 60 at least are already fitted with electric light.

The contention that a refusal to permit factories to work “young persons” and children from dawn to dusk throughout the year would adversely affect industries other than the textile industry is founded upon a mistake in fact. It is true that non-textile factories almost invariably work by natural light; but it is equally true that they do not, in most cases, avail themselves at present of the *full* period of daylight; and our observations have convinced us that the restrictions which we propose will not in any way adversely affect these factories.

Finally, there is a consensus of opinion that, over a whole year of, say, 310 working days, the gross production of a fixed 12-hour day would ultimately be more than that of a natural working day: this opinion is, we understand, held also by the Hon’ble Mr. Vithaldas. We consider that it would be an extremely short-sighted policy to abandon the best interests of both the trade and the operatives merely on account of some temporary inconvenience to a few mills.

SECTION XIX.—*Minor recommendations.*

86. In the present Act, it is laid down that all factories, except those working on the shift system,
Intervals of rest. must stop work for a full half hour between noon and two o’clock in the afternoon. In place of this we

propose that there shall in all cases be a stoppage of work for not less than half an hour, after not more than 6 hours continuous working. We suggest this amendment as we are convinced that, under the conditions prevailing in India, no operative should be required to work for more than 6 hours continuously. It is, we consider, preferable to place the matter directly upon this basis, rather than to trust as at present to the midday stoppage of work in order to secure that the operatives shall not be continuously employed for too long a period. Operatives have in the past been worked, and in some factories are at present being worked, continuously for $8\frac{1}{2}$ hours without any fixed interval of rest. This ought not, in our opinion, to be permitted. There is another point in favour of the proposal. We find that in few of the textile factories in India is the midday interval used by the work people as their meal hour. Coming to work at daybreak without taking food, the operatives in most factories take their first meal between 8 a.m. and 10 a.m., and generally eat again between 2 p.m. and 4 p.m.; the midday interval is ordinarily spent in smoking, resting, or sleeping in or near the mill compound. We believe that the hands could in many places be kept much more steadily at work if they obtained, instead of the midday rest, one interval of half an hour between 8 a.m. and 10 a.m., and another between 2 p.m. and 4 p.m. This course has been suggested to us by several mill managers, and our proposal makes it possible for any factory to adopt it, while those who prefer to retain the midday stoppage can do so.

87. The intention of the existing Act was to make Sunday a close holiday for all factories, subject, however, to four provisions designed

The Sunday holiday.

with the object of avoiding all inconvenience to factory owners. The first provision was intended to permit the supervising and mechanical staff to examine and repair machinery on a Sunday, without imposing on the owners the obligation to give a compensatory holiday in lieu thereof; the second admits of the factory as a whole, or of any individual in the factory, working on Sunday, if a compensatory holiday is given on one of the three days preceding or succeeding the Sunday; the third and fourth provisions enable the Local Governments and the Government of India, respectively, to exempt any factory or class of factories from the necessity for granting the Sunday holiday. As we have explained in paragraph 16 of this report, advantage has been taken of the somewhat wide terms adopted in the first proviso to bring in the whole body of workers, or a considerable proportion of them, to clean machinery on Sundays. In such cases no compensatory holiday is, in fact, given. It is, we think, clear that this practice should be stopped; and we consider that this can best be effected by adding to section 5 B, sub-section (2), clause (a) of the Act an explanation to the effect that periodical cleaning is not included in the terms "examining" or "repairing." The second proviso has also worked somewhat unsatisfactorily in practice, inasmuch as it is extremely difficult for an inspector to ascertain whether, when a portion of the ordinary staff is worked on Sunday, compensatory holidays are in fact given to them. As no notice of the intention to work on Sunday is required, and as Sunday working is permissible in anticipation of the grant of a holiday later on in the week, employers can, and do, work

their operatives on Sunday without granting any compensatory holiday, and they run but little risk of detection thereby. In order to prevent this, we recommend that previous notice should be required in all such cases. This will not occasion any inconvenience to factory owners, while it will enable the inspectors to satisfy themselves that the provisions of the law are in fact complied with.

88. Government already has power to exempt, by notification, any factory or class of factories from the necessity for giving a Sunday holiday. We think it would make the Act more complete, and save trouble, to specify in it, in addition, the classes of factories which we have ascertained must *always* be granted the exemption on account of the continuous processes carried on. These are breweries, distilleries, sugar refineries, mineral-oil refineries, ice factories, glass works, tanneries, cement and chemical works, and kilns connected with potteries.

89. We do not consider that factory owners should be compelled to provide elementary education for the children employed by them. We can see no reason why this particular obligation should be placed upon employers of factory labour only, and we know of no analogous provision in this country which could be cited in support of the proposal. Education is not compulsory in India; and the class from which the child workers employed in the factories are drawn does not, as a rule, take advantage of the educational facilities which are at present offered. Further, as we have already stated, we are most strongly opposed to the maintenance of schools within the factory enclosure. In many cases the mill school is used only in order to keep the children on the premises throughout the day, and they are forced to work—often for the full running hours of the factory—if the labour supply is short.

90. We feel strongly, however, that every facility and encouragement should be given to promote the education of children working in factories. The conditions under which these children live are necessarily such as to prevent them from availing themselves of educational facilities to the extent to which other children can; and in most cases it would be impracticable for the children, however willing they or their parents might be, to obtain any opportunity of attending school. It is hardly necessary to advance any arguments in favour of the suggestion that all possible facilities should be given for the education of this class; and we feel sure that in advocating this we shall command the sympathetic support of the employers of labour in India. The problem must, we consider, be attacked by the educational and local authorities, acting in concert; and we trust that the various Local Governments will bring all the influence which they can to bear in order to secure that the matter is adequately dealt with. The only solution of a practicable character appears to us to be an arrangement under which special schools for factory children would be opened at suitable centres, close to the factories; the course of instruction would have to be repeated twice each day, for the benefit of each set of half-timers, and the school hours would have to be fixed solely with reference to the working

hours of the children in the factories. Arrangements could doubtless be made under which it would be possible for the children to attend school for a maximum of two hours each day. We do not consider that a longer period would be advisable, in view of the facts that the children must necessarily be tired after their work in the factory, and that it is desirable to get them away from the factory, and the factory neighbourhood, at the earliest possible moment. These special schools would probably have to be financed by the local authorities concerned, but we feel confident that the factory owners for the education of whose workers these schools would be maintained would gladly assist in this matter by substantial voluntary contributions.

91. Further, in order to encourage the education of factory children, we propose that any child of 13 years of age, who can produce a certificate showing that he has passed such educational standard as each Local Government may fix from time to time, should be permitted to work as a "young person," if certified as physically fit to work 12 hours a day. This proposal is based on a similar concession given under the English factory law; though it may not be taken advantage of to any great extent at first, we believe that in time it may give some stimulus to education.

92. The subject of the presence of non-working children in factories naturally falls under two heads:—(i) the presence of infants or children too young to be capable of doing work, and (ii) the presence of children under the legal working age, who could nevertheless be worked. We are of opinion that children under 6 years would generally fall within the former category, children over 6 years in the latter. As regards the former class—children under 6 years of age—we do not recommend that it should be made an offence to permit such children to remain in a factory. We are satisfied that every effort is at present made by employers to keep women from bringing young children into the factories; in some factories it has been found possible to stop this practice entirely, and we have everywhere found that mill managers do all they can to discourage it. But in a large number of cases it is quite impracticable to prevent it altogether. Many women who earn their livelihood by factory work must either bring their children with them to the factory, or leave them at home practically without care or supervision of any kind. The rooms in which women work are in general well lighted and well ventilated; and it is only in a few exceptional cases that the children who accompany their mothers could come to any harm. As a matter of fact, the information which we have been able to collect on this subject shows that there are extremely few accidents to young children in factories, and in these circumstances we do not think that a case has been made out in favour of an absolute prohibition of the practice. Any attempt to prescribe general rules governing the matter would, we think, fail, inasmuch as it is impossible to cover all the diversities which exist by a set of general rules. The only other alternative would be to leave the matter by law to the discretion of the local inspectors. We are reluctant to adopt that course, partly because

we think that the obligations to be imposed upon factory owners should be as uniform and definite as possible, and partly because we are not inclined, at the present stage, to confer absolute power upon the inspectors in respect of this matter. In all the circumstances, we are of opinion that no action need be taken by the Government to prevent the introduction of non-working children under the age of 6 years into factories.

93. In the case of non-working children over 6 years of age, the dangers to be guarded against are of a different kind. Our inquiries have shown that there is a great scarcity of child-workers in textile factories all over India, and also that under-age children of this class, accompanying their parents to factories, are frequently allowed to work as regular hands, or to help their parents. The inspectors find it almost impossible to prevent this. If an inspector appears, such children stop working, and say they were playing; and no conviction can be obtained unless it can be proved that the child was actually working. The presumption, amounting almost to certainty, is that any such child found in a mill would in fact be engaged as a regular worker; but proof which will satisfy the courts is often unobtainable, and in such cases the law is violated with impunity. In order to prevent this, and to facilitate the work of inspection, we recommend that any child over the age of 6 years, who is found within any room or other part of a factory where manufacturing processes or work incidental to manufacturing processes is carried on, should be deemed to be employed in that factory, unless the contrary can be proved. This provision will not, we are satisfied, occasion any practical inconvenience, while it will materially facilitate the work of inspection.

94. Our observations show that the ventilation in factories, other than cotton textile factories, is in general excellent, and no provisions regarding the purity of

Fixation of a standard of purity for air in factories.

the air are required in such cases. In cotton textile factories the conditions in this respect vary widely; speaking generally, the newer mills are admirably ventilated, while the arrangements in the older mills are such that, though ventilating contrivances exist, they are not effective in actual practice. In order to obtain a comfortable degree of warmth in the cold weather, or in order to prevent threads snapping in the hot dry months, or when a dry breeze is blowing, it is the custom in most mills not fitted with modern ventilating arrangements to shut all the windows. In these circumstances the atmosphere of the work rooms soon becomes very vitiated; and it requires no demonstration that continued work in such foul air must necessarily be most injurious to the operatives. We would refer, in this connection, to our inspection notes on mills Nos. 3, 27, 28, and 29. As one witness of long practical experience stated, any man would feel exhausted even if he merely sat in a chair in some of the work rooms for eight or nine hours, the atmosphere was so foul. Others were of opinion that the vitiated air in the mills was largely responsible both for the careless habits of work of the operatives, and for their frequent absences from the work rooms. The conditions in some mills were, they considered, such as to preclude any display

of energy, and to necessitate frequent absences in order to obtain a breath of pure air. Our observations have convinced us that these statements are justified by the conditions obtaining in some cotton textile mills, and we are therefore of opinion that an attempt should be made to fix a standard of purity of air, in order that a reasonable amount of ventilation may be insisted on. Unless a standard of purity be fixed, it will be impossible for the inspectors to effect any improvement in respect of this matter. The standard should, as in England, be expressed in terms of the proportion of carbon dioxide present in the air, and power should be taken in the new Act authorising the Governor-General in Council to prescribe and enforce such a standard. The question of the standard actually to be fixed is one for chemical and medical experts; and we recommend that arrangements should now be made to conduct the experimental work necessary in order to arrive at a decision on this point. We do not consider that the standard adopted in England could be applied, without careful examination as to its suitability, to India.

95. Agreeing in this respect with practically every witness examined, we do not consider that any standard of humidity should be fixed for the air in textile mills in this country. The climatic conditions vary so widely over India that the fixation of any standard would, we are satisfied, be impossible in practice.

96. The water used for humidifying purposes is, in general, taken from the municipal water-supply. *Fixation of a standard of purity for the water used for humidifying purposes.* In other cases it is usually drawn from sufficiently pure sources; but we have found several instances where the water used for this purpose was taken from stagnant, foul-smelling tanks, and was obviously most impure. We consider that it will be possible to rectify this, while at the same time imposing no burden upon the factories which have at present a supply of reasonably pure water, by requiring that in all cases where humidity of the air is produced by artificial means, the water used for the purpose must be taken either from a public supply of drinking water, or from some other source of supply ordinarily used for drinking purposes. If it is not obtained from such sources, then the water used must first be purified to the satisfaction of the inspector. This will cover all cases, even those of factories situated in the most isolated places.

97. We have found that in several classes of factories, more particularly cotton presses, rice-mills, flour mills, and paper mills, the amount of solid impurities in the atmosphere is so large as to cause serious danger to the health of the operatives. In many cases the dust was so bad that we could hardly enter the work-rooms. In some of the better managed factories mechanical appliances have been used which entirely obviate this danger, and there is no reason why such appliances should not be insisted on wherever they are needed. We recommend that power should be taken in the new Act to require the owner of any factory where dust or other impurities are likely to be inhaled by the workers, and where this could probably be prevented, to take such means

of a mechanical character as the inspector may direct in order to prevent such inhalation. The circumstances are, we think, such as to justify fully the application of this remedy. An appeal against any order of this nature passed by an inspector should, we think, lie to such authority as each Local Government may prescribe

98. Throughout our tour, we directed special attention to the question of the adequacy of the ordinary scale of latrine accom-

Latrine accommodation.

modation, which is one seat for every 50 workers. We are satisfied that that scale is, in general, adequate. Men were seldom seen waiting outside the latrines, and no complaints were made as to the inadequacy of the accommodation provided. The scale is, however, inadequate in the case of the smaller factories where the number of workers does not exceed about 200. In order to provide for this, we recommend that the following scale should be prescribed for general adoption:—

up to 50 operatives ..	... 3 seats.
from 51 to 150 operatives ..	.. 4 seats.
from 151 to 200 operatives ..	.. 5 seats.
above this number	one seat for every 50, or fraction of 50.

Where latrines are provided on the septic-tank or water-carriage system, the scale might be reduced after the first 25 seats. We do not consider that the provision of separate urinal accommodation should be insisted on. The habits of the native in this respect are different from those of the European; and it has been found that urinals, where provided, have frequently not been used in the manner intended. The provision of separate urinal accommodation would, in general, probably be of but little benefit to the workers.

99. The arrangements for the fencing of machinery are, in the great majority of cases, excellent.

Fencing of machinery.

We do not consider that any powers in excess of those conferred by the present Act are necessary as regards this matter.

100. In many factories no adequate provision is made for the escape of the operatives from the

The provision of fire exits.

upper storeys in case of fire.

There is frequently only one staircase to the upper storeys, which serves both as entrance and exit. These staircases are often narrow and steep; and it would be quite impossible in some factories we visited for even a moderately small number of men to escape quickly from the upper storeys of the building. Most factories in India with more than one storey are cotton factories; and, considering the danger of fires occurring there, and the rapidity with which they spread, we regard it as essential that adequate provision should be made for the egress of the workers in case of fire. We therefore recommend that every factory owner should be liable to be called upon to provide adequate facilities for this purpose; and that inspectors should be authorised to serve notices upon occupiers specifying the measures which they consider necessary

in order to effect this, and fixing a period within which these measures must be carried out. An appeal against any order of this nature passed by an inspector should, we think, lie to such authority as each Local Government may prescribe.

101. It has been suggested that all factory doors should be hung so as to open readily outwards.

Hanging of doors in factories.

The question is not of much importance in India, as in most factories it is the custom to leave all doors wide open during working hours. We recognise, however, that it is a useful measure of precaution to require that all doors shall, except where sliding doors are used, be hung so as to open readily from the inside outwards; and we recommend that the doors of all rooms where more than 30 workers are at any time employed should, in factories the construction of which was not commenced before the passing of the new Act, be required to be hung in this manner. We do not consider it advisable to give retrospective effect to this provision; but we have no doubt that the majority of factory owners will, on their attention being called to the matter, voluntarily adopt this simple and inexpensive precaution against accidents.

102. Machines known as "openers" are used in cotton presses to clean the cotton, and also to mix the various qualities of cotton

Cotton openers.

passed through the machine into one uniform grade. In some cases the machine is used primarily as a cleaner; in others the chief object is to mix the cotton. The opener is of simple construction: a cylinder fitted with projecting spikes of wood, or of iron covered with leather, is made to revolve at a very high speed within a small chamber, provided with a receiving opening at the top, and a delivery opening, extending for the whole length of the chamber, in front. The cotton is pushed by hand into the chamber at the top; catching in the spikes, it is swept round inside the chamber, and ejected with considerable violence from the opening in front. Clouds of dust rise from the cotton as it emerges, unless steam is used in the opener. The machine usually is of a very primitive type; and, as it is used at present, it is a constant source of danger to all the operatives in the press house. In the first place, the air is usually thick with dust beaten out of the cotton; in the second place, stones mixed with the raw cotton are occasionally hurled with great force from the opener among the operatives who work directly in front of it, removing the cotton as it falls; and, lastly, and most important, fires frequently occur owing to the presence of matches in the raw cotton, or to sparks caused by stones or similar bodies coming in contact with exposed portions of the metal work inside the opener. In such cases the fire is almost explosive in its violence, as the air is heavily charged with floating particles of cotton, and the opener is surrounded by large quantities of cotton in a loose fluffy condition. In an instant the whole room is ablaze; after the first flash, however, little difficulty is usually experienced in putting out the fire. It is a remarkable fact that, while a considerable number of women have been burned to death owing to fires occurring in the opener, only three

cases have been traced where male workers have died from this cause. We visited a press house at Nagpur where a fire had recently occurred, resulting in the death of two women. Four females were working in front of the opener when the fire broke out, along with a considerable number of men. All the men escaped without injury; when the fire was put out a few minutes later, two of the women were found dead, lying on heaps of cotton to one side of the opener. They were not seriously burned, and in the opinion of the medical officer they had probably died of shock. The room was practically an open shed, on the ground level, with numerous large uncovered openings at every two or three yards' interval. The opener was not more than fifteen feet from a large open door way. We have ascertained that in similar accidents twelve women were burnt to death at Barsi in 1902, and six women at Amalner in 1906.

103. All the accidents due to fires occurring at the opener are of practically the same character. The men generally escape without injury, other than superficial burns; the women, in most cases, are killed. The reasons for this are that the instantaneous flash bewilders the women, they become panic-stricken, and rush into danger while seeking to escape. Further, their form of garment is such that they attract much more cotton fluff than the men, who usually work with no covering but a small loin cloth. This fluff is at once ignited; and, though it probably would not in itself be sufficient to cause any serious injury, yet the feeling that their clothing is on fire still further bewilders and terrifies the female workers. Lastly, the amount of dust and fluff from the cotton thrown out from the opener is so great that the women are said frequently to cover their faces completely with a portion of their garments, in order to escape the irritation and annoyance which the fluff and dust cause. It is obvious that, in these circumstances, they have but little chance of escape should a fire occur.

104. We are satisfied that the only practicable method which will prevent the recurrence of these deplorable accidents is an absolute prohibition against the employment of women, or female young persons, in that portion of a cotton-press factory in which an opener is at work. Owing to the extremely dangerous character of this machine, we consider that the prohibition should be extended to children also, although children are, as a matter of fact, seldom engaged in any part of a press factory. The enquiries which we have made show that an absolute prohibition of this kind will not occasion any serious inconvenience to the owners of press factories, or interfere with the work there. Women are employed in front of the openers merely in order to beat the cotton, or to render the mixing process still more complete; but they could equally well be replaced by men, and the additional cost would be trifling. The absolute prohibition which we suggest would not, of course, apply to persons working on the feeding side of an opener, where it delivers into another room completely separated off from the feed-room by a partition extending from the floor to the roof. It should also be noted that our proposals do not apply to openers in cotton ginning factories; work in front of these is not dangerous.

105. Under section 20 of the present Act, Local Governments are empowered to extend the Act to factories employing not less than 20 persons. This power has been exercised by the Governments of the United Provinces, Burma, and the Punjab, limits suited to the requirements of each province being fixed. In these circumstances we see no advantage in reducing the general limit from 50 to 20 persons. This course would be open to the objection that the Act might thereby be applied in cases where its practical enforcement would be impossible, or extremely difficult: it certainly would considerably increase the work of the inspectors, and might require the appointment of additional men. We have discovered nothing in the course of our tour to lead us to think that any general extension of the Act to these small factories is either necessary or advisable.

106. The Government of India referred to us the question whether, if the definition of a "factory" in the present Act were eventually held not to be sufficiently comprehensive to cover electric power stations, these factories should be specifically included in the definition. We consider that this is unnecessary. All necessary precautions for the safety of the workers are already prescribed in the Indian Electricity Act, or in the rules made thereunder; the operatives are of a much superior class to ordinary factory workers; they are in no case overworked; and they do not require protection as against their employers. We understand that the majority of the Local Governments consulted on this subject were also of opinion that it was unnecessary to bring electric power stations under the Factory Act.

SECTION XX.—Administration of the Factory Act.

107. When we find that in Calcutta, the head-quarters of a special factory inspector, from 30 to 40 per cent. of the children employed half time in jute factories are under the legal age of 9 years, and 25 per cent. of the young full-timers are under the legal age of 14 years; that in 17 out of the 29 cotton factories visited by us outside the Bombay Presidency all the children under 14 years of age are regularly worked the same hours as adults; that factory inspectors admit that they knew of the existence of these abuses, and took no steps to stop them; and that in many factories the provisions of the law for a midday interval and an entire stoppage of work on Sunday are more or less ignored—it is evident that, except at a few centres, the present system of factory inspection has proved a failure. The reason seems to us to be that Government has not appointed a sufficient number of full-time factory inspectors, and has depended too much on a number of *ex-officio* inspectors who have neither the time nor the special knowledge necessary for the work. Our deliberate opinion is that the inspection of large factories by the District Magistrate or the Civil Surgeon is, so far as the enforcement of the Act is concerned, a useless formality which ought to be abandoned. The only part of India in which a fairly

adequate staff of special inspectors has been appointed in the Bombay Presidency, and there the Act is, on the whole, well enforced.

103. We consider it essential to a proper enforcement of the Act all over India that the staff of full-time inspectors should be at once increased to a strength sufficient to cope with the work of inspecting all the factories in India. The number of such inspectors employed at present for each province, and the number we propose should be entertained, in the first instance, are as follows:—

Province.	Present number.	Proposed number.
Bombay	3	4
Bengal and Eastern Bengal and Assam	1	2
United Provinces		1
Madras	1	1
Punjab		1
Central Provinces	1	1
Burma		1

These recommendations need explanation in some cases:—

The Bombay Government recognise the necessity for an additional inspector, and there can be no doubt that the increasing number of factories in this province requires the services of another man immediately.

The present inspector's charge includes also the factories in the United Provinces: he should be relieved of this part of his duties,

and a second inspector should be appointed, the work in Bengal and Eastern Bengal being suitably divided between the two.

An assistant inspector of factories has, we understand, recently been appointed to this province. We consider there is ample work for one full-time inspector.

The present inspector devotes a portion of his time to the inspection of factories in Madras city only, his principal work is that of

boiler inspector for the whole Presidency. We consider that one full-time factory inspector, with no other duties, should be appointed and made responsible for all the factories in the Presidency.

The present inspector in the Central Provinces is also boiler-inspector for that province, and has a low-paid assistant. There is no full-time inspector in either Punjab, Central Provinces, and Burma.

Burma or the Punjab. In each of these three provinces, the number of large factories working throughout the year is comparatively small, but there are large numbers of seasonal factories for rice-husking, cotton-ginning, etc. If the inspectors had only duties under the Factory Act, they would not be fully employed during the months when the seasonal factories are shut down. We therefore recommend that they should be also the boiler inspectors for the respective provinces: the inspection of the boilers of the seasonal factories is best undertaken when the factories are shut down, so that their combined duties would be fairly spread over the whole year. If assistance is required in the Central Provinces, the assistant should be merely a boiler-inspector, with no power under the Factory Act, as we are strongly opposed to the grant of authority under the Factory Act to any but responsible men of some position.

109. With the appointment of this staff of full-time inspectors we would entirely do away with the periodical inspection of factories by *ex-officio* inspectors, whether

ordinary or medical. We have already alluded to the uselessness of such inspections when performed by district officers, who in most cases know little about the work, and sometimes have never been inside a factory when they are called on to make inspections under the Act. To be of any value, an inspection must be made by an officer thoroughly conversant both with all the provisions of the Act and also with the internal working and arrangements of the mill, and in justice to mill-owners there ought to be uniformity and continuity of policy in carrying out the Act. We received, in the course of our tour, several complaints of unnecessary trouble and confusion caused by the conflicting orders of different *ex-officio* inspectors—orders given by an *ex-officio* inspector were, on his transfer from the district, at once reversed by his successor, and factories were sometimes over-inspected by a number of subordinate officers possessing no practical knowledge of the industries concerned.

110. The periodical inspections by Civil Surgeons and other medical officers appointed joint inspectors under the Act are in our opinion only repetitions of the inspections made by District Officers, and are equally useless. The joint inspector is supposed to give special attention to the employment of children, and the sanitation, ventilation, water-supply, etc., of the factory. These are points which will be looked into by the full-time factory inspector in future, and we see no reason to think that the same ground need be gone over again by a medical man in India, any more than in England. An ordinary inspector is perfectly competent to see that latrines are provided and kept clean, that a sufficient supply of good drinking-water is provided for the mill hands, that the factory is properly ventilated, and so on; while, if our proposals for the certification of children are accepted, an inspector's duty, so far as the employment of children is concerned, will resolve

itself into an examination of their certificates. We see no possible danger in the entire abandonment of these inspections by medical officers; and, on the other hand, we see great advantage in the concentration of the whole responsibility for the inspection of each factory in the hands of one trained inspector.

111. The full-time inspectors would, of course, be appointed by the Local Governments as at present.
Appointment and pay of inspectors. We consider that some Indian ex-

perience, if possible of the main industry of the province, and ability to converse with the factory operatives in their own language, are essential qualifications for the appointments. We do not consider it necessary that the inspector should have had previous experience of factory work in England; but we advise that every inspector who has not some experience of factories or factory inspection work in the United Kingdom should, as soon after his appointment as convenient, be allowed to pass three months with a factory inspector there. To secure men of the proper stamp and position we recommend that the salaries of inspectors should commence from Rs. 400 a month or upwards (the initial salary being fixed in each case with reference to the man's qualifications) and should rise by annual increments of Rs. 30 to Rs. 1,000: the salaries to be personal, not graded; the appointments, which should be on probation for the first year, to be made to particular provinces, but the inspectors to be liable to transfer to other provinces should the Local Governments concerned consider transfer advisable: such of the present factory inspectors as are considered suitable should be brought into the scheme at once.

112. One of the questions referred to us is whether arrangements should be made to secure uniformity in the administration of the Act throughout India. Our opinion is that while nothing should be done to diminish in any way the full authority and responsibility of the Local Governments for the administration of the Act in their respective provinces, it is necessary to take steps to secure some uniformity in the administration throughout India. Wide differences at present exist in the administration of the Act in different parts of India: these have already been set forth at length in the preceding sections of our report, and need not be recapitulated here. We need only record our opinion that, if a fairly uniform enforcement of the Act is to be secured throughout India, something must be done to co-ordinate the policy and work of inspection in the different provinces.

113. For this purpose we recommend the appointment by the Imperial Government of a chief inspector of factories in India.
Proposal to appoint a chief inspector of factories in India. His head-quarters should be in

Bombay, but for the greater part of the year he should be on tour, visiting all the factory centres in India at least once a year, and making long halts at places such as Calcutta, where the number of factories is great. His duties should be purely advisory, and he should not, except when specially requested or empowered by a Local Government, exercise any

power under the Act except that of entry and inspection of factories. In respect to factory inspections in each province he should be directly subordinate to the Local Government, corresponding directly with the local secretariat. He should secure uniformity of administration by calling the attention of inspectors to matters in which their inspectional work falls short of his standard. The inspectors should be bound to comply with his directions, but in doubtful cases he should take the orders of the Local Government. In the case of any difference of opinion on a cardinal point between the chief inspector and the Local Government, the latter should refer the matter for the orders of the Imperial Government. The greatest care should be taken to prevent the appointment leading to any centralisation of the administration of the Act in the hands of the Imperial Government: the Local Governments must be left free to administer the Act themselves, as in the past, the only difference being that each of them will have the advice and assistance of the chief inspector in securing uniformity of administration. The post, which must be well paid, will require a man of marked ability and tact, and with Indian experience. If he has not already had experience of factories in the United Kingdom, he should, like the inspector, be given an opportunity of seeing the work of factory inspection there.

114. Under the present Act the District Magistrate is an *ex-officio* inspector of all factories in his district. We are of opinion that the arrangement should be continued, not for the purpose of periodical inspection of factories by the District Magistrate, but in order that the full-time inspector may have in each district an official superior who would, when necessary, control his work in that district, and to whom he can turn for advice and assistance. The practice of appointing subordinate officers, such as Assistant Collectors or tahsildars, to be inspectors of factories should, we recommend, be discontinued. In Bombay the work of the full-time inspectors is supervised and controlled by the Collector of Bombay or his covenanted assistant: we consider that the arrangement is a good one, and recommend that in Calcutta and Madras, and, if necessary, in the other provinces as well, the inspectors should be placed under the direct control of similar officers. The system in Madras by which the control of factory inspection throughout the Presidency is given to the Sanitary Engineer does not recommend itself to us.

115. The arrangements which we propose for the certification of children for age and physical fitness have been detailed in Section XVI of our report. To give effect to these at the principal industrial centres, we consider it essential that at least one full-time certifying surgeon should be appointed for all the factories in Bombay city, another for those in Calcutta and its neighbourhood, and probably a third for the factories in Ahmedabad and other places in Gujarat. In our opinion the work of certification at Bombay and Calcutta is badly done under the present systems; the number of medical officers concerned, the frequent changes of *personnel*, and the different standards adopted for the purpose of

ascertaining ages, all tend to this result. We believe that one special officer could, by carefully arranging his movements, probably visit all the mills in Bombay city once a week for the purpose of certifying the children, under the system we have proposed. Similarly in Calcutta we recommend that, at first, one special officer should be appointed: if it is found in practice that he cannot visit every factory once a week, then the certification of children in some of the outlying factories must be entrusted to the local civil surgeons until such time as a clear case is made out for the appointment of a second full-time officer. For the certifying surgeons in both Bombay and Calcutta, motor cars should be provided to prevent delay in getting about from mill to mill. We are not so convinced as to the absolute necessity for a full-time certifying surgeon in Gujarat, but think that the proposal to appoint one ought to be investigated by the Local Government. It is not, in our opinion, necessary that these special certifying surgeons should be members of the Indian Medical Service: it would probably be better to appoint qualified medical men who do not belong to that service, and who would, therefore, probably continue in the same post for long periods. Where full-time officers have not been appointed, the local Civil Surgeon must continue to be the certifying surgeon.

116. The proposals which we have made as regards the appointment of inspectors and certifying surgeons are necessarily of a tentative character, inasmuch as we are not in possession of sufficient information to warrant us in pronouncing any positive opinion as to the staff required, or as to the detailed arrangements to be made in order to secure proper inspection and adequate facilities for the certification of children. These details must be based upon the results of actual experience acquired as to the working of the system we propose; our specific proposals are in this respect purely of a preliminary character; and we wish it to be clearly understood that any arrangements which experience may show to be required in order to secure adequate inspection and certification should certainly be made.

SECTION XXI.—General.

117. We have considered it advisable to cast our proposals for the amendment of the present law into the form of a draft Bill, embodying in a precise form all the recommendations which we consider necessary (Appendix E). While not claiming for this draft any great accuracy of legal phraseology, we have endeavoured to make it as complete and definite as possible. Objections have been taken to the present Act, both by many of the witnesses who appeared before us, and by the managers of mills which we visited, on the ground that it is too vague, and leaves too much to be dealt with by rules and notifications which managers and others interested in the Act find difficulty in obtaining, and in keeping corrected. We admit the force of the objection, and think that all directions of general application should be included in the Act.

118. We presume that the new Bill will probably be introduced and passed, with such modifications as may eventually be decided upon, during the session of 1908-09. In that case, we advise that the Act should not be brought into force until the 1st April 1910. It is, we consider, necessary to give employers of labour a reasonable time within which to make their arrangements to meet the altered conditions which the new Act will create. The Act will necessitate in some cases changes of a more or less radical character; for instance, factories working only daylight hours at present will, if they desire to work a 12-hour fixed day throughout the year, have to put in electric-light installations. Further, any change of system will probably be resented by a certain section of the mill operatives in India; and it would, we consider, be unduly optimistic to hold that the new Act will be brought into force without some temporary friction. For that reason we attach the greatest importance to its operation beginning at a time when the conditions are such as to diminish, as far as possible, the probability of any serious disorganisation occurring. In April the labour supply is, except in jute mills, normal, and the hours in factories working by daylight are approximately 12 a day. Employers will therefore be in a better position then to meet any unreasonable demands which may be made than they would be at a later period in the year; while, as the working hours will not be decreased in daylight factories, the operatives will probably accept the altered conditions more readily, and may learn to appreciate their advantages before the hot season is over.

119. Although we consider that the effect of our proposals will ultimately be to improve materially the position of industries in India, yet we are conscious that there will be a transition period during which the disadvantages of the limitations we propose will be felt, while their advantages will not then have become apparent. During this period factories in British India may possibly suffer to some extent from the competition of adjacent factories situated in Native States, and not subject to the restrictions which we desire to impose. This is more especially the case as regards cotton ginning, spinning, and weaving factories. The question is one of considerable practical importance; and we would suggest that the Government of India should consider the advisability of making arrangements under which the conditions in these territories would be assimilated as far as possible in this respect to those obtaining in British India.

120. We regret that Dr. Nair, though agreeing with many of our conclusions and proposals, declines to sign this report; a separate minute by him is appended. This minute, which contains the first complete explanation of his views which we have received, was handed to us when our report was already in print; and we have decided not to comment on it at length. To do so would involve some delay, and would also unduly extend the length of this report, while any reply which was confined merely to the more salient points in the minute would be liable to be misunderstood. We desire to add, however, that, after

considering Dr. Nair's views, we see no reason to alter any of our conclusions or recommendations.

W. T. MORISON.

WILLIAM A. BEAUMONT.

S. M. CHITNAVIS.

A. McROBERT.

J. NICOLL.

VITHALDAS DAMODHER THACKERSEY

(subject to my minute of dissent).

Minute of dissent by the Hon'ble Mr. Vithaldas Damodher Thackersey.

The recommendation of the majority fixing 12 hours as the working day for young persons will, for all practical purposes, bring down the economical working of cotton factories to 12 hours a day. Now, this would affect adversely the large majority of cotton factories which until now stuck to daylight hours and successfully withstood the great temptation to earn larger profits by the introduction of the electric light. Before the practice of working with artificial light became common, no suggestion was ever made from any quarter that the working hours of mills were excessive. On the contrary, evidence from all sides pointed to the fact that the natural light system was best suited to a country like India, not only from the point of view of manufacturers but also from the point of view of the workers. The Factory Commission of 1890, under the Presidentship of such an able and experienced officer as Dr. Lethbridge, and having as a member so zealous a champion of the labourers as the late Mr. S. S. Bengali, examined minutely the whole question of the working hours of the mills. They were assisted in their enquiry by such local representatives and ardent supporters of the interests of the mill-hands as the late Mr. N. M. Lokhandey of Bombay, Mr. Framji Manekji of the United Provinces, and Babu Russick Lal Ghose of Calcutta. That Commission in fact was appointed with special instructions to ascertain by means of specially directed enquiries, conducted in the centres of factory labour, the views and requirements of the Indian operatives themselves as to the restrictions to be imposed on their labour in factories. They went thoroughly into the question of working hours by examining a large number of factories, and workmen, some of whom were put forward by the accredited local representatives on the Commission in each province; and the Commission recorded the conclusion that, "The operatives desired that the present working day, daylight to dusk, should be continued." The Commission further observed :—

"We give it as our opinion that there is nothing in the conditions under which Indian operatives work which calls for any legislative restrictions as to the hours an adult male may choose to work. Nor can we conceive any condition which can ever call for State interference in this matter." In accordance with this view the Indian Factory Act of 1891 contained no provision to limit the working hours of adult males directly or indirectly. I may mention here that that Act was regarded, as embodying all the changes that were called for by the conditions of the mill industry. Replying to an observation from the late Hon'ble Mr. Nugent, who was the official representative of Bombay in the Viceroy's Legislative Council, His Excellency Lord Lansdowne said :— "We believe that the effect of our measure will be to place factory labour in India on a proper footing, and our Bill will be accepted here and at Home, not, as the Hon'ble Mr. Nugent would have us believe, as a mere prelude to still further restrictions, but as a settlement as final as any settlement of such a question can be."

I do not say that an assurance such as this precludes the Government from revising the law in the light of any change in the conditions

of the industry. But the only circumstance that can be said to introduce a change in the conditions that prevailed in 1890 in the working of the mills is the introduction of electric light in some of them. In mills which do not use the electric light, the conditions of labour are precisely what they were at the passing of the present Act. The mills which work by natural light are the majority. Some mills which tried working with artificial light found it wasteful and have discontinued its use. I cannot help thinking that it is extremely unjust to these mills to be subjected to new restrictions while they have continued to conform to the practice of what Sir James Campbell, Collector of Bombay in 1892, called "the natural and satisfactory practice of limiting work to the hours of daylight."

Even to-day after 17 years, evidence before the present Commission strongly confirms the conclusions arrived at by the Factory Commission of 1890, whether we look to the evidence given by the large number of manufacturers or to the evidence taken from the mill-hands themselves. In the mass of evidence before us, there is a consensus, particularly in the Bombay Presidency, that the daylight hours are the most suitable to the manufacturers and the operatives. And what is more significant, two of the strongest opponents of long hours in cotton mills, the Hon'ble Mr. H. E. E. Proctor, Chairman of the Bombay Chamber of Commerce, and Mr. Bezanji Dadabhai, the well-known manager of the Empress Mills at Nagpore, whose 31 years' experience of the management of mills and close association with the mill-hands, entitle his opinion to the greatest weight, both advocated working from sunrise to sunset as the most suitable for the operatives. I quote Mr. Bezanji's words as reported in the evidence:—"He objected to the fixed 12-hour day because in the short day they would have to work by artificial light and this did not conduce to good work. He preferred daylight working, and the operatives did so too, as they did not like being kept in the mill after dark. Some of them lived a distance of 3 miles from the mill. Most of the factories in India worked by natural light, and once the electric light was introduced, there was the constant temptation to work longer hours. If the hands had the option, they would choose daylight working in preference to a fixed 12-hour day."

The evidence of operatives also tends to the preference of daylight to dusk hours (see pages 28 and 156 of the minutes of evidence). On all occasions, in Ahmedabad and in Bombay, the President kindly invited me to accompany him whenever the operatives had to be examined. We minutely questioned them, and their spontaneous reply was always that they did not wish to be worked by electric light. We then explained to them that in that case the longest day came in the hottest part of the year, and the shortest in the cold weather, and, furthermore, that Government may not be willing to legislate for a changing day. In spite of this explanation, Ahmedabad operatives to a man stuck to the natural day, and expressed their opinion in a decided way to the following effect:—"If it is a choice between 12 hours fixed day all the year round and an average 12-hour day, shorter in winter and longer in summer, then we are all in favour of

the average 12-hour day because we do not wish to work by electric light at any cost. It injures our eyes and we wish to work by daylight only. We would rather do the extra hour in summer than work by electric light for even an hour in winter." On another occasion at Ahmedabad the operatives said:—"At present the mill does not work by electric light though an installation has been put in. But if night work is introduced, most of the Mussalman weavers will leave and go elsewhere. We can get work in other mills . . . We strongly object to work at night." At Bombay, although the first expression was, as I have said, for natural light, after our explanation the opinion became divided. I take the following from the evidence:—"Some of us wish a 6 A.M. to 6 P.M. day fixed absolutely all the year round, because if there is any variation from day to day the manager will take advantage of it and gradually increase the hours. Others of us wish for daylight working only, i.e., about 11 hours in winter and 13 in summer, varying with the length of daylight. This was the practice before electric light was introduced, and some of us wish to revert to it so as to escape work by electric light altogether."

Further evidence of the suitability of the natural day system can be found in the fact that out of 224 cotton mills in India, about 100 are fitted with electric light, and even of these 100 the evidence shows that many work from daylight to dusk in spite of their installation.

It has been calculated that the daily average working hours of a mill working daylight hours will be 12 hours and 5 minutes in the whole year. This calculation, however, does not take into account the second half hour interval which will have to be given under our recommendation when the working time exceeds 12 hours. When that is considered, the longest working day in the year will be about 12 hours 45 minutes and the shortest 11 hours; while during the greater portion of the year it would be about 12 hours. The average would be about 11 hours and 54 minutes. Thus, the great advantage of the natural day is that while it will not lead to excessive working of young persons, it also sets a limit to working of adult males, and renders overworking impossible. It would greatly facilitate inspection because the mills under this system cannot be worked after dusk, while the mills worked with artificial light will require inspection to prevent time cribbing. This must be a very powerful argument in favour of the natural day as in a vast country like India, where factories are scattered far and wide, oftentimes singly, it would be practically impossible to detect time cribbing if every factory is forced to put electric light.

The statement that mills in Madras will not be seriously affected by a fixed 12-hour day is not borne out by the inspection notes, where it is recorded (Nos. 150, 151, 161, and 162) that they are affected to the extent of from 15 minutes to one hour in their longest day.

It has been objected to my proposal that it would be impossible from the point of view of Government control to permit two totally different systems of hours side by side in the same place. The obvious reply is that the natural day system does not need special control, and therefore the work of Government control will be much reduced in places

like Bombay, while in places like Ahmedabad, where out of 45 only 2 or 3 mills use electric light, the work of control will be practically *nil*. In the Central Provinces, Madras Presidency, and in many individual mills in out of the way places, except for children, no special inspection will be required and much Government expense will be saved. On the contrary, if two systems exist side by side in Bombay, it will greatly help the operatives who have expressed their opinion in a divided way to select conditions best suited to their particular tastes and ideas.

The other argument used against my proposal is that, in the opinion of the majority, the fixed day will ultimately conduce to better working and will be to the ultimate advantage of the manufacturers and the hands. If that view be correct, the millowners and the millhands will themselves, in their own interest, adopt the 12-hour days and will not require any compulsion by the legislature, more particularly as the adoption of the 12-hour day will appreciably add to their working hours at the end of the year. Such a settlement is far preferable to one which must be arrived at with friction, disorganization, and discontent of manufacturers and operatives alike.

The argument that operatives will work in the natural-day-mills in the hot weather, and in the electric-light mills in the cold weather, does not appear correct. The former class of mills cannot employ an increased number of hands in the hot weather, nor can the electric-light mills do so in the cold weather.

The only plausible objection to the natural day is that it involves 45 minutes more a day in the hottest part of the year than under the 12-hour system. Against that, however, it may be mentioned that in the Bombay Presidency in particular, which contains the largest number of cotton mills, the atmospheric conditions in the cold weather months are most unfavourable and the hands have to work harder at piecing up the ends in the spinning department where young persons and children are mostly employed; while in the hot weather months the weather conditions being extremely favourable to spinning, there are fewer ends down and hands have to do less work.

In the Punjab and the United Provinces, where the days vary more in length than in Bombay, the Central Provinces and Southern India, and the heat is more severe, the manufacturers have themselves found out what is best for them, and have already put up electric installations. As is pointed out in the report, the working day may extend in the hot weather to 13½ hours, with natural light; but even now in the hot weather many of the mills actually work shorter hours than in the cold weather, and they will therefore adopt the uniform 12-hour day as a matter of course, without giving rise to any disorganization. In the United Provinces and the Punjab the climatic conditions are in fact the reverse of those obtaining in Bombay; and it would be absurd to suppose that manufacturers there would voluntarily adopt any system under which they would work their factories for long hours, while the conditions affecting spinning were unfavourable, and for shorter hours in the cold weather when the conditions were favourable.

Under my proposal the only change will be that in natural-day mills young persons would be allowed to work the daylight hours and the children half of the daylight hours without in any way increasing their working time under the 12-hour day system. I do not propose to increase the working hours of women, and as regards children my suggestion* will give them a maximum of about 22 minutes over 6 hours for 2 or 3 months in the year, while it will bring down their work to about 5½ hours in the cold weather months.

Although I have discussed the question of a natural day in relation to cotton mills, it must not be forgotten that there are other industries where the natural day system is the only working system and where working by electric light is not usual. I may instance the woollen mills, the saw mills, the silk and paper mills, the match factory, the hosieries, etc. Speaking for the Bombay Presidency at least they all work by natural light, and although they have been proved never to work excessive hours, they will be as much affected as the cotton mills.

In the face of the facts set forth above, of the opinion of the Factory Commission in 1890, and the evidence of the operatives taken by it, of the consensus of opinion in favour of the natural day among manufacturers and operatives alike, of the general practice of working on that system in the majority of cotton mills, and wholly in some other industries, of the total absence of anything in the evidence against it, of the strong opinion expressed by Colonel Mactaggart that he had absolutely no reason to think that the hours of labour in force in the Bombay factories had any bad effect on the health of the operatives, of Dr. Turner's evidence that the mortality of the factory operatives is less than that of general labourers, and of the substantial advantages in respect of inspection, and the convenience of the operatives, I am strongly of the view that it is extremely impolitic and unjust, especially after the assurances of the Government of India in 1891, to interfere with a system so agreeable to manufacturers and operatives, and suitable to the conditions of the country.

VITHALDAS DAMODHER THACKERSEY.

Minute of dissent by Dr. Nair.

I beg to submit a separate report on most of the important points referred for the consideration of the Indian Factory Labour Commission. I regret that I have to differ on these points from the opinions of my colleagues, with whom I have worked so cordially for the last six months.

But the result of our investigations held all over India during the last few months into the

Introductory.

various aspects of factory labour in this country leads me to a different conclusion to the one arrived at by my fellow members of the Commission. In spite of some attempts made in certain quarters to draw the Lancashire red herring across the track of the Factory Commission, I never deviated from my fixed purpose of investigating things at first hand and of forming my opinions on the strength of what I saw and heard, rather than trusting to external inspirations to guide me in my inquiries. To me, personally, there was no incentive to take any step which would even to the smallest degree handicap the industries of my native country in competition with Lancashire or Japan. But however much I, as a native of India, may be opposed to the interference of Lancashire in questions closely relating to the manufacturing interests of India, I cannot but admit that the result of Lancashire's interference has, on some occasions at least, been of considerable benefit to the Indian industries. The protection which factory women and children at present enjoy, under the law, they owe, to a large extent, to Lancashire. The many abuses which we found to exist in connection with factory labour in India are certainly not of Lancashire's creation. I am not prepared to maintain that because certain representatives of the cotton industry in Lancashire, the chief competitor with the Indian cotton industry have prominently drawn the attention of the authorities to the existence of grave abuses in the working of the Indian textile factories, those abuses ought to be condoned. Abuses are abuses whether they are pointed out by friends or foes. The only questions for us to consider were did these alleged abuses really exist, and, if so, what were the best means of removing them.

The chief complaint against the existing system of factory labour in India is the inordinately long hours that the labourers are worked in many industries and especially in the textile mills.

SECTION I.—*Adult Males.*

I am of opinion that the charge of working long hours habitually has clearly been proved against the textile industries in India, and I am further convinced, that taking all the circumstances of the case into consideration, nothing but legislative restriction of the hours of adult labour within reasonable limits will effectively prevent these long hours from being worked. This is the first point on which I differ from my colleagues, and I shall now proceed to give my reasons for the conclusion I have arrived at.

We have had ample evidence to prove that long hours are worked periodically in several of the industries in India. We have seen *Long hours worked in the textile industry.* that operatives in ginning factories have had on occasions to work 17 and 18 hours a day. In rice mills and flour mills men have occasionally to work 20 or 22 hours. In printing presses men have had to work for 22 hours a day for seven consecutive days. I admit that these are only occasional occurrences. But for habitually long hours one must go to the textile industries.

The tendency to work long hours in the cotton mills in Bombay began, I understand, in the year 1898, though in Agra it has existed for the last 20 years. But the question of the inordinately long hours in these mills did not seriously attract public attention till the year 1905. The Collector of Bombay in his letter to the Government of Bombay, dated 24th June 1905, pointed out that out of 74 mills, the exact working hours of which he had ascertained, 16 mills worked 14 hours or more a day and 33 worked 13 hours or more. That was in the first half of the year 1905. But in June 1905 the Collector of Bombay wrote that "the above figures are now exceeded, and in some cases 14½ hours a day are worked from one end of the month to the other." A good deal has happened since 1905 to disturb the Bombay millowner who is inclined to work inordinately long hours. And yet 6 months ago, when the present Factory Commission was in Bombay, long hours of working were by no means unknown in the Bombay mills. Out of 20 cotton textile mills in Bombay, whose exact working hours were ascertained by the Commission, 1 mill worked day and night with changing shifts. Of the remaining 19 only 8 had fixed hours of working all the year round, and all of them worked 13 hours or more every day, exclusive of the midday interval, while 1 of them worked 14 hours a day. The 11 other mills, although some of them were fitted with electric light had changing hours in summer and winter. In summer they all worked between 13 and 14 hours, while in winter their hours came down to between 11 and 12½.

This system of daylight working, which is very much favoured in Ahmedabad, has resulted in very long hours being worked in the hottest and most trying part of the year. Thus, out of 10 mills in Ahmedabad and Broach, the hours of which were ascertained, 3 mills worked in summer 14 hours or over, while 7 worked between 13 and 14 hours. Some of these mills were fitted with electric light. For these long hours worked in summer in Ahmedabad there was some compensation in the winter season when the hours of some of these mills came down to 11. It was given to two cotton mills in Cawnpore to discover that, while they could work between 13 and 14 hours by daylight in summer, all that they had to do to work equally long hours in winter was to switch on the electric light.

The mills in Agra have comparatively fixed hours. In summer they work 15¼ hours a day, while in winter they come down to 13¾.

Calcutta is not a great centre of cotton industry, but even there the Commission visited 5 cotton mills, 1 of which works 13 hours

a day all the year round, while another works its weaving department $13\frac{1}{2}$ hours and is content with 12 hours for the spinning department.

• Delhi not to be behindhand of Agra can show hours in its cotton mills going up to 14 and even $14\frac{1}{2}$. The jute mills in Calcutta, with few exceptions, work 15 hours a day, but it must be conceded that they work on the shift system except their weaving departments in which there are no real shifts at all. These facts and many others, which the Commission have recorded in their inspection notes, prove conclusively to my mind that the hours worked in the textile mills in India are excessive. And what is more, there is nothing to prevent the hours from getting longer. How can it be otherwise? His Honour Sir John Hewett, Lieutenant-Governor of the United Provinces, in his note to the Factory Commission, remarks: "I believe that the long hours which are followed, or at all events have been followed, at times in the jute factories in Calcutta and the cotton factories in Bombay have been to some extent brought about by what seems to me to be a pernicious system, namely, that under which in the former the agents of a mill are remunerated upon the gross outturn and not upon the profits, while in the latter those who financed the mill in its early days receive a rate of remuneration fixed at so much per pound of cotton cloth produced. These two factors point to outturn, not profits, as the object to be aimed at, and are productive of wasteful and uneconomical management." His Honour has put the case very well and further comment is superfluous.

But we are told that these hours are only apparently long, and that really the labourers in Indian mills work very casually, loiter about a good deal, go out when they like to eat, to drink, to smoke, and so on. This is a very old argument which has been repeated times without number, and nearly every one seems to be inclined to attribute the whole phenomenon of loitering to the ingrained habit of Indian workmen. I have carefully studied this so-called "ingrained habit" of the Indian workmen, and have come to the conclusion that it is not an ingrained habit at all but only a manifestation of the adaptive capacity which all human beings possess more or less. Intense and concentrated labour in a cotton mill for 13 or 14 hours, day after day, week after week, and month after month is beyond the physical endurance of ordinary human beings. And so when a mill operative, who has to earn his living by his manual labour, is put to work at a machine for a longer period than he can possibly endure, he has to adapt himself to that work in such a way that he can get through the work required of him with the least possible injury to himself. The labourer does not spread out the work over a long period of time, but finding himself compelled to work a long number of hours, reduces the intensity of labour as a safeguard to his own physical well-being. And under these conditions of struggle for existence the fittest to survive are not the worthiest or strongest, for they soon break down under the strain of long hours of work, but the most idle. A system more likely to bring about degradation of labour is impossible to conceive. That the Indian labourer has no ingrained habit which prevents him from sticking to his work is sufficiently proved

by the facts supplied by an Upper India woollen mill, and which are quoted in the report of the majority of the members of the Commission.

Taking the average for the whole year the workers in that woollen mill took 1.05 spell of rest each a day, which is about 20 minutes a day. The explanation for this absence of the "ingrained habit" in the operatives in this woollen mill is twofold. Its hours are short and its management is efficient. One European mill manager admitted that the loitering habits of the operatives could be put a stop to if efficient supervision is exercised, but as such efficient supervision was costly, he preferred to go on as at present. The instances of the operatives in the jute mills working by shifts and of operatives in engineering works loitering less than the workers in cotton mills, mentioned in the majority report, further prove the relation between long hours and loitering. But the most notable instance of all is found in the case of the women workers. Women workers all over the mills in India loiter less than men, for the simple reason that they work shorter hours. In my humble opinion, in India it is the worker who suffers from bad management and not the management that suffers from bad workers. The experience of other countries that "short hours have also reduced the interruptions in the course of the day" has been realized at least in one mill in India, and in the face of these facts to go on charging the Indian labourers with possessing ingrained habits of idleness is to use the expression once used by the present Chief Commissioner of the Central Provinces "the refuge of the sweater."

Next to the alleged idle habits of the Indian operative the quality of his work in him which is supposed to necessitate these long hours is his unskilfulness. That at the commencement of the factory system in India the operatives were absolutely unskilful stands to reason. But that in the last half century they have made little or no progress in skilfulness is a proposition which requires further proof to support it. On this point the evidence given before the Commission is conflicting. Some have stated that the operatives have improved considerably in skill, while others maintained just the opposite view that they have made no improvement, while yet others went further and said that they never will. I am not competent to judge between these conflicting opinions. But I feel inclined to the view that the operatives have improved and are improving gradually.

It is a well-known fact that in Bombay wages have gone up. But at the same time the cost of labour to the cotton industry has not risen appreciably. This is partly due to the increased productive capacity of the Indian operatives. Outside experts, who are competent judges in matters of this sort, like Mr. James Platt and Mr. Henry Lee, are of opinion that "in no country on earth except in Lancashire do the operatives possess such a natural leaning to the textile industry as in India." Dr. G. Von Schultze-Gaevernitz writing in 1895 expressed that "the number of operatives up to this time 5 or 6 times as many as the English is to-day in the best spinning mill in Bombay only $3\frac{1}{2}$ times as high, i.e., does not stand far behind the German." If that

statement is correct, and in 1895 if the Indian operatives did not stand far behind the German there seems to be no reasonable ground to complain of his slow progress or no progress. And at the present time according to the very careful calculations made by Mr. Simpson of Messrs. Binny & Co. of Madras, a cotton mill in Madras with 35,000 ring spindles, 800 looms, average count 16s working 67½ hours a week would employ 2,622 operatives all told. Whereas for a similar mill in Lancashire working 54½ hours a week the total number of hands required would be 982, which works out a proportion of 2·62 Indian hands to 1 English hand. And if we also consider that the average monthly wage of a Lancashire operative will be about Rs. 60 and the average monthly wage of a Madras operative is Rs. 15 it is clear that for the same money the Indian millowner gets nearly double the work that an English millowner does. "India is the mother country of the textile industry, and up to the time of Arkwright possessed the monopoly of fine yarns," and it seems incredible that the Indian labourer in the textile mills is making no progress in skilfulness. Before condemning the Indian operative as inefficient and incapable of improvement he ought to be given a fair hearing. In a memorial submitted to His Excellency the Marquis of Lansdowne, Viceroy and Governor-General of India in 1889, by the mill operatives of Bombay, it was stated that "it has been said to the detriment of your petitioners that an Indian mill operative is not as hard-working as his brother workman in England, and that a mill operative in England does the work of three men employed on the same work in an Indian mill. . . . The real cause of this, your Lordship's petitioners submit, is the bad machinery and the bad raw material used in the mills. . . . The breakage in the thread is so continuous here on account of the bad quality of the cotton that millowners are compelled to employ more men." As the effect of the long hours has to be considered before judging of the idle habits of the Indian operatives, so the quality of the raw material they have to handle has to be taken into consideration before the extent of their skilfulness or otherwise is determined.

Leaving aside these excuses which are usually put forward to justify the long hours worked in Indian mills, I now come to consider the effect of long working days on (1) the mill operatives, (2) on the textile industry in India.

The question as to whether the physique of the operatives has been injuriously affected by the long hours they are made to work in the mills has engaged the serious attention of the Factory Commission. We have tried to find out the actual truth of the matter by personal inspection of mill operatives, by examining and cross-examining medical men in the different centres of mill industry in India, and by the study of various vital statistics bearing on the question.

The question is an exceedingly difficult one. The necessary data for arriving at a correct scientific conclusion are absent; Indian vital statistics are notoriously unreliable; mill hands are constantly changing;

and medical men in India, and even hospital authorities, under the depressing effect of a peculiarly trying climate do not keep any records of the clinical features of the cases they examine. Under a combination of these adverse circumstances any definite opinion expressed on the point at issue is likely to be more dogmatic than scientific. I have carefully inspected the operatives in over 200 mills in different parts of India, and, in my opinion, they were all apparently healthy. On the strength of such inspection, however, I am not prepared to say, as my friend Lieutenant-Colonel Mactaggart does, that there is no physical deterioration among the factory operatives in India. The chief test, in my humble opinion, of physical deterioration is diminished power of resistance to disease.

The Sickness Index, as Dr. Turner of Bombay observed, is the only reliable criterion, and accurate evidence on that point is not available. Rough and ready statements like "the mill operatives as a class are far more healthy than outside labourers of the same class" or "the mill operatives are of very poor physique and distinctly inferior to the agricultural labourers" are good enough in their way, but are unsuited for any scientific conclusions to be based upon. Colonel Mactaggart makes much of the absence of skin diseases and of tubercular glands among the operatives as proving their healthiness. To my mind these facts do not warrant the inference drawn from them. I saw several cases of skin eruptions in very healthy looking children in some of the Calcutta jute mills. I am not prepared to say that there is physical deterioration in these children because they exhibit certain skin eruptions. These skin eruptions are well known to medical men as belonging to a class of skin diseases commonly called "Trade Dermatitis." Many dermatologists consider that these are all varieties of Dermatitis Veninata. They are purely caused by external irritation from jute or other materials that the workers have to handle, and have nothing to do with physical deterioration. The absence of tubercular glands again does not necessarily indicate, to my mind, the absence of any tendency to tubercular affection in the operatives. And the evidence of Major A. Street, F.R.C.S., I.M.S., Surgeon to the Jamsetji Jejeebhoy Hospital, distinctly points to the presence of tubercular glands in children working in the mills. "From my experience at the J. J. Hospital in Bombay," says Major Street, "I am sure that tubercular glands of the neck are particularly common in young operatives, and frequently point out to my students that they (the operatives) and firemen on board ship produce the large majority of the cases we see." Major Gordon Tucker, Physician to the J. J. Hospital, confirms the statement of Major Street, his colleague on the staff of that Hospital. "Phthisis is very common among them (the mill operatives)" says Major Gordon Tucker. And he continues—"speaking broadly the ordinary case of tuberculosis seen in Hospital would be a mill-hand, while the ordinary case of malaria would be a coolie. Contrasting the physique of these two classes, the mill-hand came out badly."

Thus the evidence of these two medical men, one a surgeon and the other a physician, on the staff of the largest hospital in Bombay, the city

with the biggest factory population in India, affirms the greater prevalence of tuberculosis among mill-hands. Unfortunately these medical men have not been able to give us any statistics, as the records of the J. J. Hospital are periodically destroyed, and with them all evidence of the greater prevalence of tubercular affections among mill-hands. But the impressions of two clinical teachers in a big hospital, with a medical school attached, are even more valuable than statistics. Where the hospital doctors of Bombay failed, the Health Officer of Bombay, Dr. Turner, has given us some statistics bearing on the point although they cover only a period of six years. His figures were published in Appendix G of the Textile Factory Labour Committee's report and again they are published along with his evidence before this Commission. Dr. Turner has given figures to show the incidence of phthisis among the factory population and the general labourers for the years from 1900 to 1906. Comparing the figures there is a slight excess in the percentage of deaths from phthisis in Bombay among the factory hands as compared with the general labourers. The excess is not very marked. But it must be considered that among the general labourers Dr. Turner has included earthworkers and dock labourers, two classes of workers who are exceedingly liable to lung diseases. The general death-rate of mill operatives is everywhere quoted as exceedingly low. It was the same case in the evidence given before the Select Committee appointed in England in 1816 to investigate into the state of the children employed in factories in the United Kingdom. Commenting upon that Sir Robert Peel said in the House of Commons, "if the evidence were to be trusted, instead of debating such a bill as was then before them, application ought to be made to the Legislature for the erection of cotton mills for the purpose of further and more effectually providing for the health of His Majesty's liege subjects." The evidence of the aforesaid 3 Bombay medical men, although not sufficient to give a decided opinion as to the existence of physical deterioration in the mill operative—for that as I have already said there are no data—is still enough to create a strong suspicion that the health of the mill operatives in Bombay is not all that it should be. And strongly corroborative of them we have the evidence of two medical men, both of them Indians practising medicine in Bombay.

Sir Bhalchandra Krishna thinks that there is physical deterioration among the mill-hands, but is careful enough to say that it is due to bad ventilation in the mills and to the alcoholic habits of the operatives, and not to the long hours of work. If the mills are badly ventilated, the longer the operatives work inside them the greater the accumulation of carbonic acid and other impurities of the respired air in the atmosphere inside the mill, and consequently the greater the injury to the operatives working inside them, is a fact which perhaps escaped the attention of Sir Bhalchandra Krishna. Doctor Chavan, L.M.S., is a native of Ratnagiri, the district from which a large number of mill operatives come to Bombay. He has a large practice among mill-hands, and his opinion that the mill operatives suffer to a very large extent from phthisis and dyspepsia is valuable. He comes more into contact with the mill operatives than most Civil Surgeons are

likely to do. Doctor Chavan of Bombay and Rai Sahib Dajee Ramachandra of Nagpur, although they may not be men of such high professional standing as most of the other medical witnesses who gave evidence before the Factory Commission, have, I believe, a greater and more intimate knowledge of the factory operatives, and their evidence I consider of great value.

The majority of the medical witnesses said that they have not observed any physical deterioration among the factory hands and that they have not noticed that the operatives were more liable to any diseases than other labourers. This negative statement does not carry us very far. There are many reasons that render it difficult for the ordinary Civil Surgeon to observe evidences of physical deterioration in the mill operative, when they are present. These causes may roughly be divided into (1) the habits of the mill operatives, and (2) the nature of the development of some of their maladies. Any one who knows natives of India, and specially the lower classes in India, knows how nervous they become when even the slightest illness attacks them. If they happen to get ill away from home their chief concern is to get back home. This peculiar habit, or frame of mind, call it by whatever name, is in my opinion more responsible than any thing else for the extraordinary changing of mill-hands that is noticed in all the Indian textile mills. Mr. Leslie of Graves, Cotton & Co. of Bombay, Mr. Bezonji, Manager of the Empress Mills, Nagpur, and Mr. Simpson of the Buckingham and Carnatic Mills, Madras, have all supplied us with very careful statistics which go to prove that *all* the hands in a mill change on an average once in 18 months. Mr. Leslie says "that the most astonishing figures in this respect are to be found in the number of people who applied for 'leave altogether' or in other words resigned. These total no less than 2,158 in six months and represent 38 per cent. of the total number of people employed. I must confess that these figures came as a surprise to me for they go to show that some 18 months is really the maximum period for which a mill-hand works in a Bombay mill at a time." But Mr. Leslie's figures for Bombay are corroborated by mill managers in Nagpur and Madras and therefore it is safe to assume that the practice is general in all the textile mills in India. What is the explanation of this constant taking of 'leave altogether' on the part of the mill-hands. The explanation usually given by the mill managers is that all the mill operatives are peasant proprietors who have their little plots of land in their own village and that they leave the mills from time to time to cultivate and look after their lands. I have heard this explanation given at least fifty times in the course of our enquiry. In spite of its universal acceptance by millowners and managers I have considerable difficulty in accepting it. In the first place I cannot believe that the three quarters of a million mill operatives in India are all or even a majority of them owners of plots of land, however small.

At the utmost about 20 per cent. of the total number of mill operatives in India may own land themselves or may be members of undivided Hindu families owning land. The remaining 80 per cent. if

they periodically leave mill work to go and cultivate lands must do so as hired agricultural labourers under some landed proprietor. Generally speaking, as agricultural labour is paid less than mill labour in India there must be some explanation for the operatives leaving more remunerative work for less paid labour. Then again agricultural labour is seasonal. It does not go on all the year round. The figures of the Carnatic mills show that the hands left the mills in large numbers every month. Taking the year 1907 the lowest number that left in any month was 264 in November and the highest 397 in May. The average for the whole year was 329 a month. This shows that it is not to work in the fields that the hands leave the mills.

We were also told that most of the mill-hands save enough money in a few years and then retire and go back to their village homes and live on their savings. I doubt if this happy termination of a mill operative's life occurs even to 1 per cent. of the hands employed in Indian mills. Good many of the hands are indebted to money-lenders having borrowed money on, usually in Bombay at 72 per cent. interest, I am told. Many others spend a fair proportion of their earnings on drink. A large number have to send money every month for the maintenance of their families left behind in their villages. And after all these, if the mill-hands in a few years can save enough out of their 15 or 20 rupees a month to live in comfort "ever after" they must be extraordinary financiers indeed. In all our inspections of mill operatives I noticed that there were very few men over 40 to be seen. In England, I am told, that men over 40 or 45 are generally not taken into the mills. In India, where everywhere one hears complaints of shortage of labour, managers welcome all labourers young and old. And yet men over 40 are not generally to be seen. Again the explanation is given that they have all retired on their savings. Is it likely? Whatever may be said of the Indian operative it cannot be said that he is not fond of money. If then, he has health and strength to do the work which he was accustomed to do for some years, is it likely that he will give up his work and his wages. The Indian officials in Government service show no such tendency to retire. When they reach their 55th year they usually very humbly request Government for an extension of service. Why is the mill-hand so anxious to retire? In my humble opinion the reason of the early retirement of the Indian mill operative is his physical breakdown which unfits him for any further mill work. Mr. Bezanji, who has been the manager of the Empress Mill, Nagpur, one of the largest cotton mills in India, for over 25 years, told me that he has seen men who had worked for some years in his mill and subsequently left the mill, bringing food every day to some of their relations working in the mill. And when asked why they did not themselves work in the mill, they replied, that they had no longer the strength to work. This exodus from the mill by the time the physical breakdown comes prevents the physically deteriorated mill-hand coming under the observation of the Civil Surgeon.

Then it has been stated that the gradually advancing physical deterioration in the operatives actually at work in the mills ought to

have been noticed, if it really existed, by the various ex-officio medical inspectors who from time to time visit the mill. But I should like to know how many medical inspectors have closely examined the operatives. How many of them have put a stethoscope to the chests of mill operatives. How many have watched from time to time the nature and frequency of attacks of such apparently trivial ailments like cough, fever, diarrhoea, etc., to which the operatives are subject. According to Doctor Kingston Fowler, of Brompton Consumption Hospital, people who work in dusty atmosphere, in imperfectly ventilated rooms, are very liable to develop fibrosis of lung combined with tuberculosis. Workers in cotton mills are, among others, liable to this form of lung affection. Cough is the first symptom noticed. "The course of the affection is extremely chronic and for years there may be no other symptoms except a moderate degree of emaciation. Cases which have run a very prolonged course may terminate with very acute symptoms. Emaciation may be rapid towards the close." And Dr. Fowler also says that the presence of tubercle could hardly be discovered in the early stages by physical examination. If that is so, it will be interesting to know how it is possible for any medical man walking through a mill looking at all the operatives to say that there is no physical deterioration and that the operatives are all healthy? Before the operatives go away on their "leave altogether" they take unauthorized holidays. On an average an operative in a cotton mill absents himself from work from 4 to 6 days in a month. The managers put this down to absolute laziness on the part of the operatives. The operatives themselves when questioned about it explained that it was out of sheer physical exhaustion that they occasionally gave up a day's work and wages and took rest. This explanation to my mind seems to be the correct one, and for this reason. After the Commission paid a surprise visit at 7-45 P.M. to mill No. 27 (inspection notes) the following note was recorded:—"The carding and preparation rooms (the only part of the mill at work) were badly lit, and there was no ventilation, all windows were closed, and the air was hot and oppressive: the perspiring workers looked dull, listless, and exhausted, and the few children half dazed." I am perfectly convinced that if the mill operatives generally go home in the condition in which I saw the operatives of mill No. 27 on that November evening, they cannot possibly work for 26 days in a month. And if that is the condition of the operatives at the end of a day's work in November in a mill working $13\frac{1}{2}$ hours a day, one can more or less imagine the state of the workers in a mill which works $15\frac{1}{4}$ hours during an Indian summer's day. We have often been told that on account of the loitering habits of the Indian operative he never gets physically deteriorated even though his hours of duty may be long. In the course of a similar inquiry in England in 1816 when a medical witness was asked if inhaling of dust and cotton fibre were not injurious to health, he declared himself quite unable to say; and when invited to say why not, suggested that "the bad effects were counteracted by constant expectoration."

The Indian factory population is a constantly changing one. Men from agricultural districts come to town to work in the mills, get rapidly deteriorated under the strain of long hours in closed and stuffy

rooms, and are replaced by another set from the country who are "used up" in their turn and passed back to their villages. The only town in India with anything approaching to a permanent factory population is Cawnpore, and the half-timers in Cawnpore, probably the children of used up mill operatives, were physically among the worst we saw anywhere in our tour of inspection.

The only other statistics that I have to notice in connection with the question of the physique of the operatives are those relating to their weights. In almost every mill visited by the Commission a certain number of adult operatives chosen at random were weighed and their weights recorded in the inspection notes. But as mere recording of the weights of a certain number of operatives in itself led to no conclusions, I believe, at the suggestion of Lieutenant-Colonel Mactaggart, the Commission decided to compare the weights of the operatives with the weights of the prisoners in the provinces to which the operatives belonged. The figures for the weights of prisoners were kindly supplied by the Jail Department of each province, and a comparative statement of the weights of mill operatives and prisoners has been prepared. As the large majority of the operatives in Bengal and the Punjab really come from the United Provinces and those in Burma from the Northern Circars of the Madras Presidency I compare below the operatives in those provinces with the prisoners of their native province.

Province.			Average weight of spinners. lb.	Average weight of prisoners. lb.	
Bombay	..	..	102.09	112.12	
United Provinces	..	..	107.01	115.08	} U. P.
Bengal	..	..	107.93	115.05	
Punjab	..	..	113.8	115.05	
Madras	..	..	113.63	114.38	
Burma	..	..	117.14	125.7	Rajamundry.
Central Province and Berars	..	..	100.92	110.45	Central Jail.
Eastern Bengal and Assam	..	..	108.	110.846	

It has been suggested that these comparisons are not fair as every Jail Superintendent makes it a point to feed up and fatten the prisoners under his charge. I know that that is a procedure adopted at many sanatoria for the treatment of consumption. I did not know that the Indian prisons were run on the Nordrach system. I do not want to exaggerate the value of the inference to be drawn from these figures. But these figures justify the remark of Mr. Bezanji in his evidence before this Commission that "those accustomed to mill life regard it as worse than jail life." I do not claim that these figures in themselves absolutely prove the existence of physical deterioration in the mill operatives. But at the same time these figures taken along with the other facts I have mentioned establish a strong suspicion that the long working hours have caused physical deterioration in the workers.

The evidence of the medical witnesses also indicates the existence in their minds of a belief as to the evil effects of long hours on the health of the mill-hands. Out of 36 medical witnesses examined by the Commission only 27 have expressed a definite opinion as to the necessity

or otherwise for a legislative restriction of the working hours. Of these 23 are in favour of such legislative restriction, while 4 are against it. Out of the 23 medical witnesses who are in favour of legislative restriction 15 have said that they have observed no physical deterioration in the operatives. And yet they advocate legal restriction of the working hours of adult males. After all if the State is prepared to protect the health of the mill operatives the proper time to take the necessary measures for affording such protection is not after the workers have broken down and human wrecks are scattered all over the country. The proper time for interference is before such calamities have happened. The almost unanimous opinion of the medical witnesses who testified before the Factory Commission declares that the time for such interference in India has come.

I shall next consider the evidence as to the injury done to the industry by the long working hours in textile mills. The inordinately long hours in the Indian mills have been established only within the last few years. And yet already their evil influence is beginning to be felt both on the workers and on the industry. Every man who was tempted to work these long hours by the promise of higher wages, not only did a physical injury to himself but helped to enforce equally long hours on every other factory labourer in India. The methods of modern factory labour are such that the conditions of labour of even a single operative react upon those of all others. In a factory which works for 14 hours a day it is unlikely that a labourer who is only able to work 12 hours a day will be given any employment. In the large majority of cases the individual worker in Indian mills is deprived of any choice as to the conditions of employment. In India with a race of people not over-strong physically, coupled with an enervating climate, a large proportion of the working classes find mill labour as it is carried on at present far too much for their strength. And the result has been that a very large number of labourers do not attempt mill labour at all, or try it for a very short time and give it up for good as they find it beyond their physical endurance. This fact explains the shortage of labour which is complained of everywhere. I have hardly come across a textile mill in India which was not always short of labourers. And yet India is a country teeming with poor people. We have enough of labourers here to send out to South Africa and West Indies and a number of other British colonies. But the mild Hindu with his conservative habits and stay-at-home tendency does not choose to work in the Indian mills, earn his living, and remain in his native country. Why? Mr. S. H. Fremantle, I.C.S., who was deputed to report on the supply of labour in the United Provinces and in Bengal in 1906 wrote thus in his report:—"One cause for the unpopularity of mill labour is undoubtedly the distaste for the discipline which has necessarily to be maintained in a large concern, coupled with confinement for long hours in the mill. Discipline in most mills is no stricter than it need be, and education may do much in course of time to mitigate the natural aversion felt towards it, but confinement for long hours is a matter within the power of mill managers to control"

there was no complaint until the introduction of electric light. Electric light has now been installed in nearly all the Upper India and Bengal cotton and jute mills. . . . Some use their power with moderation and do little more than add an hour or two to make the short winter days equivalent to the long days of summer. Others, however, have no such scruples. In September when the day breaks before 6 I found one mill using the electric light to work up to 9 o'clock at night and several were running up to 8 P.M." Mr. Fremantle's observations have amply been confirmed by others. In Calcutta over 90 per cent. of the operatives in jute mills come from outside Bengal, not because Bengal has an insufficient supply of workers, but because the Bengali workers cannot stand the strain of work in the jute factories. In the Punjab again 95 per cent. or over of the workers in the cotton textile factories come from outside the Punjab. But curiously enough in the non-textile factories in the Punjab—the flour mills, the ginning factories, etc., we found a large proportion, if not nearly all, Punjabi workers. I asked the Hon. Mr. Har Kishen Lall of Lahore for an explanation of this apparent boycott of the cotton mills by the Punjab labourers, and he told me that the Punjabi did not like to stand up and work these long hours in the cotton mills. If these explanations are correct, and I see no reasons to doubt them, the long hours are to a very large extent responsible for the shortage of labour complained of everywhere in the textile mills in India, and which is acknowledged to be a great obstacle in the way of the further development of Indian industries. The evil is quite manifest and is keenly felt both by the labourers and their employers. And yet neither party has done anything to mitigate it. It is an industrial injury done to the working classes and it certainly is against the interests of the employers. But as Mr. Walker has very clearly pointed out in his work on Political Economy "the working classes, unless protected in an unusual degree by political franchises, by the influence of public education, and by self-respect and social ambition, show a fatal facility in submitting to industrial injuries." And as to the self-interest of the employer being sufficient to secure wise action on his part Mr. Walker says "mankind, always less than wise and too often foolish to the point of stupidity on the one hand, or of fanaticism on the other, whether in politics or domestic life, in hygiene or in religion, do not all at once become wise when industrial concerns are in question."

Under these circumstances every one connected with the textile industry in India, millowners, mill managers, factory operatives, factory inspectors, both lay and medical, have all become convinced that some sort of limitation of the working hours of mill is necessary. Mr. Fremantle, I.C.S., in his report on the supply of labour says "almost all admit that the long day is an evil that they would restrict it to a maximum of twelve hours if other mills did the same. This, of course, can only be effected by legislation as experience proves that agreements among millowners themselves are not invariably adhered to when they conflict with the interests of individuals. For this reason most managers would welcome some legislation in the matter." The Millowners Association of Bombay at their meetings held both in

April and August 1905 decided to keep the hours worked in their mills within reasonable limits, but were not able to keep to their resolution beyond a very short time.

Before this Commission 16 millowners and 42 mill managers appeared and gave evidence in favour of a legislative restriction of the working hours of adult male operatives. The large majority of the witnesses examined by us were connected with the mill industry either as owners, agents, or managers. And yet there were 97 witnesses who favoured a legislative restriction of the working hours of adult males against 103 who were opposed to it, while the mill operatives were practically unanimous in asking for legislative protection. It would be unreasonable to expect a majority of the millowners and agents to ask for legislative interference to restrict hours of adult labour, especially in a country where a large number of them receive their remuneration calculated on a percentage of production and not of profits. Under conditions like these the fact that 16 millowners came forward to advocate legal restriction of adult working hours as against 34 who were opposed to it shows the remarkable extent to which the opinion in favour of State interference has grown and spread even in quarters where one would expect nothing but the most determined opposition to such a proposal. Coming down to the managers 42 are for legislative restriction and 49 are against, while among witnesses unconnected with the industry 39 are for and 20 against State interference. Apart from numbers, the advocacy by Messrs. Tata and Sons of Bombay of a legally restricted day for all factory workers has impressed me, personally, with the practicability and reasonableness of the demand. Messrs. Tata and Sons are among the largest firms of manufacturers in India, and just now they are about to launch out into a practically new department of industrial activity in this country. When the pioneers of the new iron and steel industry in India who are also among the foremost cotton manufacturers in this country voluntarily come forward with a proposal to restrict the hours of adult labour by legislation, it may reasonably be assumed that the proposal that they make is one which in their opinion will be for the benefit of the industries in which they hold such a supreme position.

I am inclined to accept the opinion of Messrs. Tata and Sons as a guide in matters connected with Indian industrial questions not merely on account of the magnitude or variety of their manufacturing enterprise, but also for the comparatively rare combination of humanity and benevolence with sound business principles, which they have achieved in all their undertakings. In my humble opinion a manufacturing firm which never sweats its workmen, but on the other hand treats them with humanity and kindness, and provides them with dwellings, and encourages them with prizes and other rewards for honest work, and steady and persevering industry, has more claims to be heard on questions regarding the relation of capital and labour than another which has its eye only on its production and profits and which patiently waits for the

City Improvement Trust to provide dwelling-houses for its workmen. The manufacturers who told us in Bombay that they did not care to invest money on building workmen's quarters as it would only bring them a return of $2\frac{1}{2}$ or 3 per cent. at the most, while if they invested their money in cotton mills they were practically sure of a return of 25 per cent. per annum, may be excellent business men in their way, but in my humble opinion are scarcely the sort of people under whose unfettered control the comfort and well-being of thousands of Indian labourers can be entrusted. As I have already pointed out there is now a general consensus of opinion that the long hours in the textile mills ought to be regulated in some way or other. And my colleagues on the Factory Commission have also come to the same conclusion. Like them I also would not advocate direct legislative restriction of adult hours if some other less drastic measure would answer the purpose equally well. With that view I have very carefully considered the proposal put forward by the majority of my colleagues for creating a class of young persons with hours of labour restricted to 12, and have come to the conclusion that this proposal will not reduce the hours of adult labour in all the textile mills in India. The majority of the members of the Commission are sanguine that their proposals will restrict the hours of all textile mills to 12 a day and thus indirectly gain the object of regulating the working hours of these mills. I am emphatically of opinion that the proposals of the majority of the Commission will do no such thing. If factory inspection is carefully done the proposed "young persons" class will afford protection to the young persons only. The adults will remain where they are, absolutely unprotected. My reasons for so strongly dissenting from the majority of my colleagues on this point are as follows:—

The proposed "young persons" class will not affect the weaving departments of textile mills as there are very few young persons engaged in that branch of the industry. This has been admitted by many managers and millowners who gave evidence before this Commission and it has been confirmed by our own observation. In England women largely work in textile mills, and the control of their hours along with those of young persons and children effectually control the working hours of the mills. But in India women in textile mills are generally confined to the reeling department. Out of many thousand weavers we have seen during our recent tour of inspection we only came across 3 women weavers. So that the weaving department without women, young persons, and children will be practically uncontrolled so far as hours of work are concerned. But it has been put forward that weaving departments could not be worked economically independently of the spinning department and so the hours of the spinning department will practically control those of the weaving. This argument is absolutely futile. There are any number of purely weaving mills in England, and even in Bombay there is one such. Hitherto as the cotton spinners in India mainly manufactured yarn for sale in India, China, and other countries, weaving occupied a comparatively subordinate place in the cotton textile mills. But of late years the development of the *swadeshi*

spirit both in India and China has made the demand for cloth in India greater and the demand for Indian yarn in China less. The result of this twofold process has been and will continually be to give greater impetus to the manufacture of cotton cloth in the Indian textile mills. Under this new impetus weaving mills will spring up or new weaving sheds in old mills will rise, worked, it may be, by separate machinery, as is done in the Empress Mills at Nagpur, or it may be that even where the spinning and weaving departments are worked by the same engine, the weaving department will work longer hours than the spinning, as it is now being done in the Bengal cotton mills in Calcutta. Thus it is evident that the new proposal will not restrict the hours of work in weaving mills or weaving sheds, and one important branch of the textile industry will again be left free to work as long hours as it likes. Then as to spinning, a number of millowners and managers have declared that in case the hours of young persons are restricted, they would do away with the services of such protected persons and work the mill with adults wherever possible.

To quote the opinions of a few—

- (1) Mr. Chimanlal Nagindas of Ahmedabad, representing the Ahmedabad Jubilee Spinning and Manufacturing Co. and the Ahmedabad Manufacturing Co., deposed on cross-examination: "Personally he would have to dismiss these workers, as the young persons would not consent to work half-time and they would not be allowed to work full adult hours."
- (2) Mr. A. K. Leslie, of Greaves Cotton & Co., Bombay, said: "the creation of a class of young persons would in certain cases have the effect of restricting the working hours, but in those mills where young persons are not largely employed they would have to go."
- (3) Mr. Baptist, Manager, Morarjee Gokuldas Mill, Bombay, said: "It was difficult to say whether mills could obtain adults in the place of young persons, but he should personally do his best to get adults."
- (4) Mr. Gordbandas Khatau, of Khatau Muckenji Spinning and Weaving Co., of Bombay, said: "In his opinion the formation of this class would mean that mills would try to work with adults only."
- (5) Mr. E. John, Millowner, Agra, said: "He would have to get adults to take their (young persons') places."
- (6) Mr. Thornley, Mr. John's Mill Manager, Agra, said: "that he thought they would be able to get the extra adults."
- (7) Mr. A. Butterworth, Manager, Cawnpore Woollen Mills: "If the young persons class were created they could replace the 220 young adults affected by full age adults and so work the mill."

- (8) Mr. G. E. Sutcliffe, Manager, Sholapur, said: "If the young persons were limited to 12 hours' work, it might be possible, though difficult, to run the mill beyond those hours. The young persons class would make a difficulty which could be got over by a little contrivance."

I have quoted above from the evidence given before the Commission by millowners and managers from Ahmedabad, Bombay, Agra, Cawnpore, and Sholapur. They all say that the young persons *could* be replaced by adults, and what is more they *would* be so replaced, and some at least of the mills would thus run for longer than 12 hours. I am not a cotton manufacturer, and so on a practical manufacturing point like this I accept the opinion of these practical men, voluntarily expressed. From what I have seen, this substitution of adults for young persons ought to be more easy in mills with mule spinning than those with ring frames, as the percentage of young persons in such mills is very low. And it is a curious coincidence that some of the mills which are the worst offenders in the way of working very long hours are fitted with mules, with only a very small number of ring frames if at all. Those mills are almost certain to escape the indirect restriction attempted to be imposed through the medium of the "young persons" class. And even some of the mills with ring frames and their 25 or 30 per cent of young persons would, as far as I can make out from the opinion of practical manufacturers, get rid of them and try to work with adults. It may be objected that the conditions of labour market are such that it would be impossible to get the extra number of adults required. Mill managers and owners know how best to obtain the labour they want. Mr. G. Khatau, of the Khatau Muckenji Mills, says that "if a young persons class were created, one mill will steal adults from another mill and run for a longer time." Then again, as pointed out by the Textile Factory Committee in their report, "adults who have worked a whole day would frequently work all night in another mill in which wages are paid daily, thus securing money for immediate wants and that these men would absent themselves from work during the succeeding day or days."

In spite of all these attempts to get adult hands to replace the young persons a certain number of mills may fail to secure the extra hands necessary to make them independent of the young persons. Then we shall have two sets of mills in the country, one which has been able to get rid of all its young persons and replace them by adults and at liberty to work as many hours as it likes and the other whose hours are controlled by its young persons whom it could not replace. A more unfair regulation it would be impossible to conceive. It will be handicapping one set of mills against another and the economic injury involved in the process will be very great indeed.

I have been reminded that the restriction of children is also an element that must be taken into consideration. To a certain extent, perhaps, it is. But I remember that the total number of children employed in the Bombay mills is only about $2\frac{1}{2}$ per cent. of the total number of operatives. I am also aware of the fact that some of these

spinning mills in Bombay like the Century Mill are run without the aid of a single half-timer. The Century Mill employs 2,475 men and 425 women and no children. Mr. C. N. Wadia, its managing agent, told us that the young persons only amount to 15 per cent. of the total mill operatives. Mills like the Century are entirely unaffected by the restriction on children while they ought easily to be able to replace their 15 per cent. young persons by adults.

It might appear to a casual observer that the restriction on adult male labour is a worse handicap on the industry than the indirect restriction imposed through the young persons class. But as a matter of fact the young persons class will in the long run crush the Indian textile industry in competition with China and Japan. In Japan the cotton mills are already working 22 hours a day by two shifts of 11 hours each. To compete successfully with Japan our cotton mills may have to work equally long hours. If adult labour be restricted by direct legislation, mills could work night and day by two shifts of 12 hours each.

But if the working hours of mills are to be controlled through the young persons class, then the period between which the members of that class are permitted to be employed must be fixed. According to the proposal of my colleagues that period is fixed between 5-30 A.M. and 7 P.M. If that proposal is adopted then those mills which are unable to work without their young persons will be prevented from working night and day with changing shifts. Thus it is evident that for some of the Indian mills, at all events, the young persons class is a more severe handicap than direct adult restriction. But my colleagues have suggested that power might be vested in the Government of India to extend the hours within which young persons may be employed whenever the demands of the manufacturing industry justified such extension. Such power will, of course, be only exercised when demand is great and the necessity for working the mills for long hours is clearly proved.

It is exactly at such junctures that the millowner is likely to sweat his workers. The moment the Government of India relax the limit for the employment of young persons, they will be worked in shifts while the adults will most certainly be sweated by being worked 16 or 17 hours a day. The young persons class can only indirectly restrict the hours of adult labour by restricting the hours of the mill in which they are employed. The proposed class of young persons will either greatly hamper the industry by restricting the working hours of mills or where they do not do that will be ineffectual in preventing the sweating of adult workers. The proposal of my colleagues will impale the industry on the horns of a dilemma. A more disastrous proposal it is impossible to think of.

It is proposed that any mill which declares its working hours to be 12 a day should be exempted from all obligation to get its young persons medically examined and certified or to keep a separate register of young persons. And at the same time it is proposed that certain departments of these mills which have declared a 12-hour day, such as the boiler room, calendering, etc., should be exempted from the operation of the 12-hour

working day declaration. In other words certain departments of such mills will be permitted to work more than 12 hours a day. What is to prevent mill managers from employing young persons in these departments for more than 12 hours a day. The Factory Inspector will have no evidence that any operative in such mills is a young person, for there is neither medical examination nor registration of young persons in such mills. If the Inspector suspects any one to be a young person who is employed in calendering for more than 12 hours a day it is open to the mill manager to say that to the best of his knowledge and belief that operative is over 17 and consequently a fully mature adult. Where is the protection for young persons under such an arrangement, not to speak of adults.

The proposal of the majority of the Commission to create a class of young persons has found favour with very few of the millowners, agents, managers, civil surgeons, Government officials, or other witnesses who gave evidence before the Commission. The majority of the witnesses were cleverly cross-examined by some of the members of the Commission with a view to elicit their opinions as to the advisability or otherwise of creating a class of young persons with hours restricted to 12. And witness after witness rejected the proposal, and many said that if any restriction is to be imposed by law they would prefer a direct restriction of the hours of adult labour to the creation of the proposed class of young persons. To say that the witnesses did not clearly understand the point put to them is not complimentary to the intelligence of the witnesses who appeared before us or to the powers of lucid exposition of the majority of the members of the Factory Commission. As a matter of fact the point was very clearly put to the witnesses and they thoroughly understood the intention and effect of the proposal.

But the result of the long cross-examination on this point is that out of something like 78 witnesses examined by the Commission on this point 22 have given their support to the creation of a young persons class with hours restricted to 12. Comprised in this 22 are 7 millowners, 9 mill managers, and 6 others. Comparing these figures with the 16 millowners, 42 mill managers, and 39 others who supported the direct restriction of adult hours, I do not feel that I have done anything by preferring the direct restriction to the indirect means and uncertain result of the young persons class to deserve the designation of "impracticable theorist." If I am an impracticable theorist I am glad that I am in good company. For the Government of Bombay in their note to the Factory Commission say:—"Government has no proof that the creation of such a class (young persons) is necessary. If the object is to secure shorter hours for the adult workers it might involve less interference if a direct legal limitation of hours were imposed. This course would involve less interference and cause less trouble to all concerned." That opinion given by the Government of Bombay, which of all the Local Governments of India had perhaps the most to do with factories, I am quite content to accept.

The suggested class of young persons will not curtail the hours of working of the majority of textile mills to 12. Speaking generally,

this class is not wanted by millowners, mill managers, mill operatives, or others. A few instances of young persons detected by the Commission who were unfit for a full day's work could easily be met by enforcing a physical fitness test before a half-timer becomes a young person. The proposed class will serve no purpose except perhaps to help the manufacturers to put off "the evil day" when restriction of the hours of adult labour is certain to come. A young persons class and the policy of *laissez faire*, so far as adults are concerned, are all right in England where the adult workers know how to combine and protect their own interests. But in a country where the workers are illiterate, with little or no combination among themselves, with no education to enlighten them, with no capable leaders to guide them, and no franchise to protect them, the State must either step in and protect the helpless workers or stand by and watch the gradual breakdown and ruin of the labouring classes entrusted to its care.

My colleagues are emphatically of opinion that the labour conditions in India are not in any way comparable with those existing in the United Kingdom. And they say: "We strongly deprecate any attempt to apply the laws and regulations governing factory labour in the United Kingdom as such to India." These are excellent sentiments, and I cordially agree with them. But what is the creation of a young persons class with limited hours of work but a blind copy of the English Act? What is the attempt to curtail the hours of labour of adult labourers by the indirect means of curtailing the hours of work of young persons and women, but a repetition of the methods of English Factory Legislators? And above all what is the objection to the restriction of the hours of adult labour but an echo of the plea of English capitalists who have desperately clung to the antiquated *laissez faire* doctrine of the Manchester school of political economists. "Why should the hours of adults be restricted here? It is not done at home" is a statement I have heard more than once in the course of these inquiries. The reply to that question is furnished by the admirable principle enunciated by my colleagues but which unfortunately is not exemplified in their proposals.

Having disapproved of the suggestion for the creation of the young persons class with hours restricted to 12, I now beg to put forward the proposal to restrict the working hours of all male labourers in factories to 12 a day. I believe this proposal, if adopted, will put a stop to the long hours the operatives are now being worked in the textile factories in India.

This is one of the recommendations made by the Textile Factories Labour Committee which was presided over by Sir Hamilton Freer-Smith. I entirely concur with the opinion expressed by that Committee on this point. But in the course of our investigations many witnesses who were connected with the textile industry, and some who were not, objected on principle to any legal restriction on adult male labour. These gentlemen evidently held the view that the State ought not to interfere with adult labour no matter what the conditions were under which such

Legislative restriction of the hours of adult male labour.

interference was contemplated. Some witnesses travelled from principle to precedent and maintained that since such a thing as restriction of adult male labour had not been done in any country in the world, it ought not to be done here. The appeal to both principle and precedent seems to have been made under a grave misunderstanding. None of the great writers on the subject has ever denied the right of the State to interfere with adult labour under certain conditions. Even Adam Smith, who has been very much misunderstood on this point, admits the right of every man to pursue his own interests in his own way only as long as he does not violate the laws of justice. Both in France and in Switzerland adult labour has been the subject of legislation. In the former country the hours of adult labour have been restricted to 12 and in the latter to 11. In Switzerland there is a clause in the federal constitution of 1874 giving the Confederation the right "to enact uniform regulations upon the work of children in factories, upon the duration of the work of adults therein, and for the protection which should be accorded to work people employed in unhealthy and dangerous industries." Even in England State interference with adult labour is not unknown, although as yet it has been exercised to a very small extent. I believe that in England operatives working in bisulphide of carbon (used in the vulcanising of India rubber) are restricted to 5 hours of work a day by special rules; and similarly I understand that in lead-smelting works only a two hours' spell is permitted in the flues. And the Railway Regulations Act of 1895 gives the Board of Trade power, whenever it considers the hours of labour of any railway servants too long, to require the Railway Company to prepare a new schedule of hours to the satisfaction of the Board, under heavy penalties for non-compliance. There is scarcely any necessity to go further into these precedents. Even in the absence of any precedents, under the special circumstances of a country it may be justifiable to undertake legislation to control the hours of labour of its adult factory operatives.

Now what are the conditions existing in India which necessitate State interference. In the first place
Want of combination among the operatives. there is little or no combination among factory workers. This has been acknowledged on all hands. The Collector of Bombay in his letter to the Bombay Government, dated 25th November 1905, observes:—"If the millowners desire to increase the hours, the operatives have no real power to prevent them. Their power of combination is as yet exceedingly limited; a large proportion will always continue to prefer to get as high wages as they can, regardless of their own welfare in the long run; and finally the system of withholding pay and of inflicting fines render the great mass of the workmen helpless to resist the far more intelligent class which exercises authority over them. Legislative sanction and official inspection can alone enforce short hours and punish the non-observance of them." This opinion of the Collector of Bombay—the man on the spot—is practically corroborated by the opinion of the majority of the Commission who say that the operatives "are as yet unable to combine over any large area with the object of securing a common end by concerted action." The explanation of the fact that although excessively long hours were worked

in the Bombay mills on pay which was inadequate for the altered circumstances of the case, the operatives remained quiet and submitted to the long hours, is plain. It was due to their absolute helplessness to enforce a reduction of the working hours. Owing to want of combination the stronger and more avaricious among the operatives would remain on and work the long hours in order to earn all they can. The weaker among the workers who are both unable and unwilling to work the longer hours have no means of compelling their employers to reduce the number of working hours. They were disorganised units who had to choose between two evils—either to work the long hours or to give up their work. That is where the tyranny of the existing conditions comes in.

It is true that here and there isolated strikes take place in mills and sometimes the strikers get what they want. Is it not a well-known phenomenon in the industrial world that in times of great demand employers readily give in to strikes or even threats of strikes? And do they not when the demand slackens once again take prompt steps to regain lost ground? For all practical purposes the Indian mill operatives are without effective combination among themselves to act together in an emergency to secure a common end. And unless workers are protected either by combination among themselves or by the interference of the State, acting merely as individual units, they are placed at a considerable disadvantage in bargaining with their employers. With little self-confidence and less education the theoretical "freedom" of the Indian mill operative is very delusive. Through his weakness of will, ignorance, and his habit of submission to his social superiors, the Indian operative in his bargaining with his employer loses all the advantages of free competition, and suffers deep and permanent economic injury.

Secondly.—That existing conditions are injurious to the health of the operatives. I have already explained at length my own views

Physical deterioration.

and observations on the subject. The majority of the members of the Factory Commission also admit in their report that "if the life history of a considerable number of the operatives working under these conditions could be traced to its close, it is probable that there would be evidence of premature exhaustion." They also express their opinion "that the very long hours worked in many mills in the past and in some mills at present are calculated to produce physical deterioration; if generally adopted or persisted in for any length of time they would undoubtedly result in the physical deterioration of the operatives." So with the strong suspicion that these long hours have already affected the physique of the operatives, and with the certainty that if persisted in they will result in the physical deterioration of the workers, it clearly becomes the duty of the State to effectively prevent these long hours. And as I have pointed out at length that the remedies suggested by the majority of the Commission will not restrict the hours of all textile mills within reasonable limits direct restriction of adult hours becomes an absolute necessity.

Thirdly.—The workers are practically unanimous in asking for a legislative restriction of their hours of labour. The evidence of the operatives taken by this Commission points that way. And the evidence taken by the Textile Factories Labour Committee also indicates it. The workers themselves on more than one occasion have submitted memorials to His Excellency the Viceroy praying for legislation to restrict their hours. Their last memorial was, I believe, dated 24th September 1905. The evident desire of the workers for restricted and fixed hours and their absolute helplessness to secure them without legislation constitutes another strong ground for State interference.

Fourthly.—In India it is not only the mill operatives who desire to bring down the working hours within reasonable limits but the millowners are also desirous of achieving that result. The resolution of the Millowners Association on more than one occasion to curtail the working hours in the mills in Bombay and their failure to carry it out is another extraordinary circumstance which justifies, nay calls for, State intervention. There are millowners who would voluntarily curtail the working hours in their mills but are afraid of the competition of others who may work long hours. These are precisely the conditions which wise statesmen have declared to justify State interference. In the Life of Cobden, the distinguished biographer uses these words, "Can the relations between labour and capital be safely left to the unfettered play of individual competition?" The answer of modern statesmanship is that unfettered individual competition is not a principle to which the regulation of industry may be entrusted. There may be conditions which it is in the highest degree desirable to impose on industry, and to which the public opinion of the industrial classes may be entirely favourable. Yet the assistance of the law may be needed to give effect to the opinion because—in the words of the great man who was now preparing the exposition of political economy that was to reign all through the next generation—only law can afford to every individual a guarantee that his competitors will pursue the same course as to hours of labour and so forth without which he cannot safely adopt it himself.

These are the grounds on which I recommend legal restriction of the hours of adult male operatives. It has been pointed out that it would be impossible to carry out the restriction of adult labour in India, as the number of exceptions to be granted for overtime working will be enormous, and the number of Inspectors required to enforce the restriction will also be great. The difficulties under both these heads are in my opinion exaggerated. What the cases are in which overtime working ought to be permitted must be carefully drawn up in consultation with experts who are familiar with the wants and methods of each industry. And in India it would be more practicable to lay down that permission must be obtained from the local authority to work overtime. The Swiss rule of obtaining permission from the local authority will be more suited to the conditions existing in this country than the French

rule of making the Factory Inspector the authority to grant the extension. The local authority in India will have to be the Collector or the Divisional Officer. Even with an absolute adult restriction in Switzerland the Factory Inspector or his assistants or all together do not visit a factory, on an average more than once or twice a year.

We have heard a great deal about adult restriction hampering the infant industries of India. The question of the effect of a 12-hour day on production has been clearly dealt with in the report of the majority of the Commission. Indian experience in this respect coincides with the experience of other countries that reduction of the number of working hours does not necessarily mean decreased production. Curtailment and fixation of the hours of labour may on the contrary give better production and would, certainly, eventually tend to more uniform output and, to some extent, assist in modifying the serious fluctuations of business which are baneful alike to master and man. At the present time when the cry of industrial regeneration of India is in the air it may not be a very popular policy for an Indian to advocate restrictive industrial legislation for his country. But I doubt if, to shout with the biggest crowd is always the wisest course to pursue. I feel convinced that those of my countrymen who have bestowed any thought on the subject will approve of my proposal. Mere increase of wealth will not solve the problem of the poverty of India unless something is also done at the same time to alter the proportions in which the wealth is distributed. In the anxiety to increase the national wealth, to sweat and crush the labouring classes will certainly not help to further a more equitable distribution. I must also in this connection confess, with shame, that in my tour throughout India I found that my countrymen as a class were more unsympathetic and hard employers of labour than the European manufacturers. Of course there were many notable exceptions. But speaking generally the labourers fared worse under Indian employers than under the European. Even some of the most enlightened and educated Indian gentlemen, with whom I discussed industrial questions, had not a single word of sympathy with the labourers to express. They were all anxious to make up for lost time and to push on their industrial ventures and to accumulate wealth. But as for the workers, they were part of the machinery of production and nothing more. To me this discovery came as an unpleasant and disheartening surprise. But it is the truth, and, in my humble opinion, it will be an act of doubtful political wisdom to leave the many hundreds of thousands of Indian labourers to the tender mercies of the manufacturers who are supposed to be nursing the infant industries of India. I beg to submit with all the earnestness I can command, my recommendation to extend to the mill operatives in India the legislative protection which they so earnestly pray for, and which, God knows, that they so sadly stand in need of.

SECTION II.—*Women.*

The next point on which I differ from the majority of my colleagues is the raising of the hours of labour for women employed in factories

from their present limit of 11 a day to 12 ; and the reduction of their present hours of interval or intervals amounting to $1\frac{1}{2}$ hours to $\frac{1}{2}$ an hour.

This was one of the main questions to the Indian Factory Commission of 1890. A majority of that Commission strongly recommended that no restriction should be put on the working hours of women, and were of opinion that it would be very hard on the poor women labourers to be told that they could not work for "12, 13, or 14 hours." Mr. Sorabjee S. Bengalee, C.I.E., one of the members of that Commission, strongly dissented from the view of the majority on this point. In the debate on the Factory Act Amendment Bill in the Viceroyal Legislative Council in 1891, some of the representatives of the manufacturing interests strongly supported the opinion of the majority of the Commission. But the Government adhered to their proposal to restrict the hours of adult women to 11 a day and that proposal became law. Now, my colleagues make the proposal—in my humble opinion a retrograde proposal—to raise the hours of labour for women to 12 and reduce their hours of rest from $1\frac{1}{2}$ to $\frac{1}{2}$. This proposal evidently is based on a new discovery and an old argument.

The new discovery is that the factory women in India are all of good physique, that in the majority of cases they work less than the maximum of 11 hours a day, they are permitted to work, and in the opinion of some of the witnesses they are capable of working for 12 hours. But the excellent health of women factory operatives in India at the present time is the result of the short hours they are now worked. The majority of them are employed in hand reeling and are paid by piece work. Their irregular attendance does not interfere with any other labourers in the mill or with the progress of any manufacturing process. So they come when they like, go when they like. The reeling room containing no dangerous machinery they in some cases bring their infants along with them to their working room. All these arrangements are very suitable to women's work in this country, and so they are the one class of factory operatives in India who have managed to earn their living without ruining their health. For this blessing the factory women in India are indebted to the Factory Act of 1891 which was passed against the opposition of the manufacturers. The new proposal regarding women, if carried out, "will increase her hours and her health destroy." And this retrograde measure is to be taken because it is alleged that restricted hours for women handicap them in competition with men, and that if women's hours are made the same as those for men, they would have the chance of getting employment in all the departments of a textile mill, instead of being confined to one or two departments as at present. The argument that restriction of the hours of women does injuriously affect them in competition with men is a very old one, the fallacy of which has been exposed times without number. Curiously enough the argument always proceeds from manufacturers. Men and women in Indian factories do not compete for the same employment. In the few instances of some mills in Upper India where men and women are employed side by side in the reeling room we have come across a number of instances where women in spite of their restricted hours made more money by piece work than their fellow male reelers. The large majority of factory women

in India will never under any conditions work alongside of men in the spinning room or weaving shed. A small percentage of low caste women like the pariah women in Pondicherry may accept work in all the departments of a mill and work alongside of men of all castes. But the large majority never will. And in the case of the minority the present opportunities they possess of attending to their household duties and of nursing their babies will be practically lost. At present, whatever the hours of starting and stopping of a mill may be, women seldom turn up before 7 and seldom stay at their work after 6. This gives them time both in the morning and evening to attend to their household duties. In many mills the women workers do not take advantage of the $1\frac{1}{2}$ hours' rest they are entitled to under the law. They voluntarily give it up for the privilege of coming late and going home early. It is one of the rules in Switzerland that women workers may either have a long interval and work the full number of hours permitted for women or have a short interval and go home earlier. The women workers here have unconsciously adopted the Swiss rule and in most cases have given up their long interval of rest in exchange for a late start and an early finish. The contention that under the proposed rule the hours during which a woman will be away from home are decreased rather than increased is a theoretical statement which does not hold good in practice. Will any manager permit a woman spinner, let us say, working in the ring frames, to turn up for work at 7 A.M. when the mill starts work at 5-30 A.M. The entrance of women into the work of all the departments of a mill will necessarily bring them under stricter discipline as to hours of attendance and so forth, and if along with this their intervals which now amount to $1\frac{1}{2}$ hours a day is also cut down to $\frac{1}{2}$ an hour, their health, their domestic and maternal duties will all be affected at the same time. In general competition with men if women suffer, they do so from their deficiency in industrial capacity and technical skill. And these defects cannot be corrected by longer hours, for long hours and good work are rather antagonistic than concomitant. The proposal of the majority is calculated in my humble opinion to do a great deal of social and physical evil to the women workers without appreciably improving their economic condition. Women workers in ginning factories which are not under the Factory Act and whose hours are not restricted are not one bit better off than the women in ginning factories which are under the Act. The former have to work for 16 and 17 hours a day for their 3 annas, while the latter can earn the same wage in about 12 or 13 hours, which by a series of intricate calculations can be proved to be equal to 11 hours.

I protest against this proposal on physiological, economical, and ethical grounds. It will be a great calamity if the present hours of work for women in factories were to be increased or their authorized hours of rest cut down.

Another proposal of the majority of the Commission regarding female labour from which I feel compelled to dissent is the proposal

Women in ginning factory.

to permit night work for women in ginning factories. The objections to the employment of women at night in factories in general applies with equal force to their employment in ginning factories. The injury to

health, the disruption of domestic life, neglect of children all come into operation whether a woman is engaged in a spinning mill or a ginning factory. In addition to these, attempts against her chastity are likely to be more common outside the ginning factories, which are generally solitary structures in lonely parts of the country. When we were inspecting one of the rice mills in Rangoon a number of Madrased cooly women employed in that mill complained to me that when they worked during nights at the mill they were often molested by men labourers whenever they went to the latrines in the dark. The obvious reply to this will be why don't they complain to the mill authorities.

But any one who knows the difficulties that a poor cooly woman has in proving her allegation before the authorities will recognize the probability of her more often failing to establish her case than of securing the punishment of the culprit. It is not an uncommon result in such cases for the women complainant to come out with her moral reputation damaged and for the cowardly male assailant to escape all censure or punishment. Under these circumstances the factory woman in India employed at night has either to give up her work, or like the generality of her sex, excepting the suffragettes, to suffer in silence. The hardships and injustice of making women work in factories at night are very great, and before a proposal to employ them at night is made, sufficient justification ought to be shown. Now, what are the grounds on which the proposal is made? It is stated that the busy season in ginning factories is short, and the work in them is both easy and adapted for women, and that if women are prohibited from working at night it will be difficult or almost impossible to find men to work at night in the ginning factories. But none of these reasons explains the necessity for work at night.

To a very large extent—there may be exceptions—the necessity for night work is artificially produced. It is not altogether the result of large quantities of cotton coming to be ginned all of a sudden and the factories in the district finding themselves unable to cope with the work extending their operations through the late hours of the night into the early hours of the morning. In most of the ginning centres in India there is a system of combination among gin owners, where they pool the profits whether they work their factories or not. Under such a system “it is not uncommon,” says Mr. J. Walker, I.C.S., C.I.E., Commissioner of Nagpur, “in a town containing several ginning factories for one or two to be working by day and night shifts, and for others not to be working at all, but to be sharing in a pool of earnings.” Such night working Mr. Walker condemns as unjustifiable. And it will be found that night work in ginning factories prevails most in those districts where there is combination among owners. Mr. R. D. Bell, I.C.S., Assistant Collector of East Khandesh, in his evidence before the Factory Commission urged that night work in ginning factories ought to be permitted for women as it was a necessity. But in cross-examination he admitted that “there were more gins and presses in East Khandesh than were necessary for the cotton crop there, so there was no great necessity to work at night.” Then again take the Punjab where there are a large number of ginning factories with very little of combination.

Mr. Hamilton, I.C.S., representing the Government of the Punjab, stated before the Factory Commission that the normal working hours all over the Punjab in ginning factories were from 6 A.M. to 7 P.M. with 1 hour's interval in the middle of the day, or a 12-hour day with little or no night work. The question, therefore, arises as to whether when a rule declaring, that women ought not to work in factories at night, is generally accepted any departure from that ought to be made to help any combination among gin owners formed with the purpose of artificially forcing up ginning rates? I am of opinion that no such departure ought to be allowed from the general rule. Ginning factory owners are at perfect liberty to combine and to work or not to work their factories. But they must abide by the rules laid down for the guidance of factories in general. Mr. H. W. J. Bagnell, I.C.S., the Collector of Broach, in which district there are a large number of ginning factories, deposed before this Commission to the effect that night work for women in ginning factories ought to be absolutely prohibited. And he further said that in his district there were plenty of male labourers available for night work in ginning factories provided the owners were willing to pay proper wages.

But at the same time I must admit that some important witnesses have advocated night work for women in ginning factories under certain conditions. Mr. P. Hemingway, I.C.S., Deputy Commissioner of Wardha—another important ginning district—has deposed that the “employment of women at night need not be prohibited. But if it is allowed, I would strictly enforce shifts with short working hours and frequent intervals.” Even Mr. Walker, Commissioner of Nagpur, concedes this point so far as to say that “to meet cases of genuine emergent pressure, as to the genuineness of which inspectors would have first to satisfy themselves, inspectors might, I think, be authorized to grant special permission for women to work at night for a period not exceeding one month in one year.”

Thus even those who are in favour of night working for women—except gin owners—are for taking efficient and stringent safeguards to prevent women being worked 17, 18, or even 20 hours. But the majority of the members of this Commission do not want even such efficient safeguards, and they are prepared to pass a general rule permitting night work for women in ginning factories. They recommend no ascertained shifts but are satisfied with a sort of spurious shift which is utilized in the Khandesh district. The “Khandesh system,” I believe, owes its important public recognition to the mathematical genius of one of its ex-Collectors who reduced it to a mathematical formula. He ordered that the proper number of women to be employed in any ginning factory would be represented by the formula—

$$\frac{g \times h}{11} = w$$

where g represents the number of gins in the factory, h the total number of hours the factory works, 11 the number of hours a woman is allowed to work under the Factory Act, and w the total number of women to be employed.

As a mathematical formula it is excellent. But in my humble opinion it has absolutely failed in its practical application, because the mathematical Collector of Khandesh failed to take into consideration the human element involved in his problem. And the human element when it appears in the shape of a ginning labour contractor and his mukhadamie is enough to upset a dozen mathematical formulæ. These disturbing human elements were able to produce registers with the names of the necessary number of women required by the Collector's formula. But the actual number of women available for work in the gins was considerably less. If I may represent it by a formula it was—

$$X = W - (S + r)$$

where w represents the women who ought to be available for work S represents the number of sweepers who are put on the register but never work in the gins, r represents the female relations of the mukhadamie who are also put on the register but who have not the remotest intention of working in the gins, and x the number of women who are sweated to keep the factory going for 16 or 17 hours.

When we were in Jalgaon, the capital of the district where the mathematical formula came from, we were living in our train which was drawn up at a siding. There was a ginning factory not 100 yards away from our train. One morning when it was still dark I heard the engines of the factory going. I lighted a match and looked at my watch. It was 5 o'clock. That factory worked all that day, and at night when the members of the Commission were enjoying their after-dinner smoke the engines of the factory stopped. One of the members pulled out his watch and said it was half past ten. That factory had gone on working for $17\frac{1}{2}$ hours. We visited that factory the next morning and found actually at work enough women to keep the gins going but in a register found a number of other names of women. When asked where they were we were told that they were in their houses. When asked if there was a definite time when a definite worker would be at work or at home it was replied that there was no definite arrangement like the one suggested, but the extra women came and relieved those at work when they pleased and as they pleased. This is the system which my colleagues think is working satisfactorily in Khandesh. If my colleagues are satisfied with it, I certainly am not. And if the proposal to grant legal recognition to the Khandesh shift or make-shift is accepted, then it will be equivalent in my humble opinion to legalising sweating. My colleagues are good enough to say that their proposal is open to theoretical objection. The Factory Inspector, Mr. McCormack, deposed before the Commission that in Khandesh the time tables drawn up by the gin owners and approved by the authorities "were not worked up to." And if the gin owner did not evenly distribute the work among the women on his list but made one poor woman work for $17\frac{1}{2}$ hours while permitting the mukhadamie's second cousin to sit comfortably at home, how is the Factory Inspector to find it out. This may be a theoretical objection to the

majority of the members of the Factory Commission, but will be unpleasantly practical to the Inspector who wants to discharge his duties in a conscientious manner.

I am convinced that the greatest abuses of any in the factories in India exist in the ginning factories and especially in the smaller ones. And the abuses become all the more horrible as the sufferers here are all women. There are enough of ginning factories in the different ginning centres of India to deal with the cotton produced in these centres at present. And they are every day springing up like mushrooms, to open the factory, to come into the combine, then to shut down the factory and come in for a share in the profits of others in the combine who have actually worked. If every factory is worked for 12 hours a day throughout the season there will be no necessity for night work at all. I am strongly against the proposal to permit women to work at night in any factory whatever.

SECTION III.—*Young Persons.*

The third point on which I differ from the majority of members of my Commission is as to the necessity for the production of a certificate of physical fitness before a half-time child is allowed to work full time. The present proposals are to make the hours of half-time children 6 hours, and of young persons 12 hours a day. The transition comes at the age of 14, at which a child which had till then worked for six hours a day is all of a sudden to be made to work 12 hours a day. The jump is too high and the risks of physical injury great. In my humble opinion such jump ought not to be taken without a previous medical examination to ascertain whether the young person who is about to attempt to do twice the amount of work which he had been doing till then is physically fit to undertake such arduous labour. Poverty may compel many a young man to attempt to do things beyond his strength. Such attempts at gradual self-destruction ought to be checked. I have seen in our recent tours all over India certain number of young adults working in mills who though they were undoubtedly over 14 years of age were not fit to do a full day's mill work. It may be said that cases like those are few and constitute only a very small percentage of the total number of young adults working in the many mills in India. In other words the percentage of young adults who have ruined their health by attempting to do work beyond their strength is so small that it may be neglected. That is the frame of mind in which a manufacturer looks at damaged goods. But here we are dealing not with cotton cloth or woollen material or chemical substances but the damaged items are human beings. In my humble opinion it is the duty of the State to safeguard the health of every one of its subjects. The proposal to exempt mills which declare a 12-hour working day from all obligation to differentiate in any manner between young persons and mature adults may be exceedingly convenient to millowners and mill managers. But if Government permit such a proposal to become the law of the land they would fail in their duty of safeguarding the health of the many thousands of immature mill operatives all over the country. As a medical man who has had

opportunities of seeing mill operatives all over India, I beg to strongly recommend that no young person (*i.e.*, any one between the age of 14 and 17) be permitted to do more than half a day's work in any mill until such person has been certified by a recognized certifying surgeon to be physically fit to do a full day's work.

SECTION IV.—*Children.*

I agree with all the proposal made by the majority of the Commission regarding the employment of children. The reduction of their hours of actual employment to 6 per day, the prohibition of their employment at night, and before they are certified both as to age and physical fitness, the arrangement of their sets and the facilities to be afforded for their education have all my cordial approval.

The question as to what classes of labourers are factory labourers who come within the operation of the Factory Act, and what classes

Outside labourers in factories. are to be considered as outside labourers who are not controlled by the provisions of that Act, is one more of interpretation than of legislation. The labourers who come into a factory either to bring in raw materials or to take away the finished product of the factories, ought not, in my opinion, to be classed as factory operatives, whether they are employed by any contractor or by the millowner himself. But at the same time the decision that the coolies in rice factories who empty their baskets of paddy into the hoppers, directly, are not factory hands because they never go inside the factory building is a legal hair-splitting which I am unable to follow. And when a distinction is drawn between coolies who feed the hoppers with paddy brought from the mill godown, and those who feed them with paddy brought direct from the barges, it is a distinction, to my mind, without a difference. However, as I have already observed, it is a question of interpretation. But I feel that whatever may be the interpretation put on the expression "outside labourers" all factories ought to be treated alike in the facilities they are afforded for the bringing in of their raw materials and sending out of the products of their manufacture. I see no reason why the ginning factories and rice mills should be the spoiled pets of the Factory Act.

I entirely agree with my colleagues in all the minor recommendations they have submitted. And if I add a few remarks on some of them, I do so more to amplify than to criticise.

Minor recommendations. I agree with the scale of latrine accommodation proposed by the majority of the Commission. But as the member of the Factory Commission who had most to do with the inspection of latrines, I feel that my duty does not end with a proposal of a scale for the number of latrine seats to be insisted on. In the course of my inspections I came across a large number of mills which although provided with a sufficient number of latrine seats to satisfy the existing provisions of law, were yet keeping their latrines in such an insanitary condition as to be positively injurious to the health of the operatives who had to use them. Many

of these latrines were conserved by the local municipalities. And mill managers when taxed with keeping their latrines in such an insanitary condition blamed the municipality for not attending to their conservancy arrangements properly. In one instance the mill manager was even good enough to show me a large file of his correspondence with the local municipality on this vexed question. The correspondence was highly interesting and fairly vigorous, but had no effect in mitigating the insanitary condition of the latrines. The Factory Inspector was practically helpless in the matter, as it would be obviously unfair to proceed against the occupier of the factory when the question of the responsibility for the insanitary condition of the latrines was still a subject of controversy between the millowners and the municipality. The subject is, however, one which cannot be left to be fought out between these contending parties. In my opinion some definite rules ought to be made and strictly enforced by the Local Governments. I see no reason why mills situated within municipal areas with a drainage system on the water carriage principle, should not be compelled to connect their latrines with the town drainage system with efficient arrangements for flushing. And in this connection, although I have no intention of dissenting from the proposal of my colleagues, I think it would be advisable to arm Local Governments with authority under the Act, which they do not at present possess, to insist on separate urinal accommodation wherever it is considered necessary. To insist on separate urinal accommodation in an isolated ginning factory situated in the middle of up-country fields will no doubt be a vexatious proceeding. But to compel the operatives in a large mill, say for instance in Bombay, to go inside not altogether clean latrines when urinal would have answered their purpose equally well, if not better, and expose them to all the injurious influences of excretal emanations, seems to be taking risks rather unnecessarily. At least, my sanitary conscience revolts against it. I only mention these facts in order that Local Governments may be empowered under the Act with authority to deal with possible contingencies.

The supply of drinking water to the mills is another subject to which I have paid careful attention during my inspections.

Water-supply.

A large and readily available supply of good drinking water is the most essential thing in an Indian mill. The climate and conditions inside the mill are such that operatives constantly have to come out to drink water. And I have been struck with the enormous quantity of water which the average Indian operative consumes in a day. The majority of the mills I have visited have a good and adequate supply of drinking water stored somewhere within the mill compound. But I have come across a good many mills where there was no drinking water stored, but they merely had the municipal water pipes laid with delivery taps. Municipal water supplies and even "constant" supplies are apt to fail sometimes. And if the water-supply to a large mill fails in the middle of a hot summer's day, and if there is no water stored within the mill compound, the sufferings of the mill-hands will be cruel. The draft Act submitted by the majority of the Commission does say

“that in every factory there shall be maintained a sufficient water supply for the use of the persons employed in the factory.” That is sufficient for the Act. But I have heard it interpreted that the mere introduction of municipal water-supply into the mills satisfies the condition of maintaining a sufficient water-supply. And, as I have already observed, many mills acting on this principle have not provided for any storage of drinking water.

I would suggest that rules should be framed under the Act making it obligatory on millowners to store at least 2 gallons of drinking water for every operative employed in the mill.

With all the proposals made by my colleagues for the efficient administration of the Factory Act
Administration of the Factory Act.

I concur. Whether a Chief Inspector of Factories appointed by the Government of India, but who in respect of factory inspection in each Province is directly subordinate to the Local Governments, will be able to prevent the administration of the Factory Act from gradually becoming centralised under the Government of India, is an administrative question which I am not competent to discuss. But, holding as I do, that factory administration ought not to become centralised, I would place on record my emphatic opinion that if there is the remotest chance of the appointment of the newly proposed Chief Inspector leading to any centralisation of the administration of the Factory Act in the Imperial Government then the appointment ought to be done away with. In my opinion the advantages of having a Chief Inspector who would help to introduce uniformity in the administration of the Factory Act all over India will be more than counterbalanced by the disadvantages of centralism which the Chief Inspector may unconsciously bring about.

I agree with all the other recommendations of the majority of the Commission.

I am entirely at one with them in opposing any legal recognition to the working of daylight hours as equivalent to working a 12-hour day. Such a concession may be justifiable in the case of mills situated at the equator. But in some parts of India as in the Punjab where in summer there are $14\frac{1}{2}$ hours of actual daylight, with very high shade temperatures, the operatives could be actually worked for $13\frac{1}{2}$ hours. I am strongly opposed to the system of “daylight” working. I prefer fixed hours.

I also join my colleagues in insisting on the certification of all children before employment. If any departure is made from this rule the way will be thrown open for unscrupulous jobbers to manipulate under-aged children.

If the facilities for certification proposed by the Commission are found to be inadequate in practice, I am sure that Local Governments will readily make arrangements for providing additional surgeons.

My friend the Hon. Mr. Vithaldas Thackersey has always been asking for more. When the Commission proposes a 12-hour day, a very liberal allowance, he wants $12\frac{1}{2}$. I strongly object to any increase over 12

hours, and I feel sure that on this point the majority of my colleagues will be with me.

I have ventured to submit a separate report dissenting from the views of my fellow members

Conclusion.

on the Factory Labour Com-

mission because on all the important points referred to the Commission, except that relating to the employment of children, I found that my views were in entire conflict with those of my colleagues. I am perfectly conscious of the fact that I do not possess the practical knowledge of my manufacturing colleagues or the administrative experience of my official fellow members. But all the same I thought it my duty to place before Government my views on questions which I had the opportunity of closely studying during the time that I served as a member of the Factory Labour Commission.

As a medical man, a non-official, with no connection with manufactures of any kind, and above all as a native of India, my points of view will naturally be somewhat different from those of my colleagues. I have looked at the question more from the point of view of an ordinary humble citizen, of "the man in the street," who being neither a capitalist nor a labourer looks upon millowners and mill operatives alike as his countrymen. And if at times I appear to favour the mill labourer more than his capitalist master it might probably be due to the influence of the profession to which I have the honour to belong. I have attempted to investigate and study the questions referred for the consideration of the Factory Commission to the best of my ability. And the conclusions arrived at and embodied in this report are the result of serious study and sincere conviction.

I beg to submit this report for the consideration of the Government.

T. M. NAIR, M.D.

APPENDIX A.

Points referred to the Factory Labour Commission on which the evidence of witnesses is desired.

(A) ADULTS.

- (a) Should the working hours of adult males be limited, and has the physique of workers been affected by long hours?
- (b) If hours are to be limited, what number of hours should be fixed, and what would be the best method of enforcing the restriction? Would it be advisable to prescribe—
 - (1) that, except when working by shifts, the legal working hours should be from 5-30 A.M. to 6 P.M. or from 6 A.M. to 6-30 P.M.;
 - (2) that the engine should be stopped for half an hour between noon and 2 P.M.; and
 - (3) that in factories working on the day shift system the legal working hours should be from 5 A.M. to 8 P.M., provided that no adult male should work for more than 12 out of every 24 hours?

In the alternative what hours, and what midday interval, would be suitable?

- (c) As the result of the illegal employment as adults of persons between the ages of 12 and 14, has there been physical deterioration requiring the creation by law of a special class of workers intermediate between the half-timer and the adult, and corresponding to "young persons" under the English Act, whose working hours should be restricted?
- (d) If it is considered inadvisable to create a class of "young persons," do you think it desirable that a special register of all workers under the age of sixteen should be maintained in order to facilitate inquiries as to the physical fitness of the youngest adults to work full-time?
- (e) Should the employment of women at night be prohibited?

(B) CHILDREN.

- (f) Should the minimum age at which children are allowed to work in factories be raised beyond 9?
- (g) Should certificates of both age and physical fitness be required before children are allowed to work in factories?
- (h) Similarly, before children who have hitherto worked half-time are allowed to work full-time as adults, should certificates of both age and physical fitness to work full-time be required?
- (i) Should it be prescribed by law that children shall not be employed except in regular sets, whether morning and afternoon sets or double sets?
- (j) Should factory owners be obliged to provide elementary education at their own expense for children working in their factories?
- (k) Should a rule be made prohibiting non-working young children from accompanying workers to dangerous or unhealthy parts of factories? If so, how should such a prohibition be enforced?

(C) VENTILATION, SANITATION, ETC.

- (l) Should an attempt be made by testing samples of air taken from factories in India, to prescribe an analytical standard of purity for air in factories, with a view to secure proper ventilation?
- (m) Should a similar attempt be made to prescribe a standard of moisture for the air in factories, with reference both to manufacturing processes and to the health of the workers?
- (n) Should a standard of purity be fixed for the water used for humidifying purposes?
- (o) Should the standard of latrine accommodation be raised to one seat for every 25 workers, and should the provision of separate urinal accommodation be insisted on?

- (p) Should it be prescribed that all doors of working rooms shall be hung so as to open readily from the inside outwards, in case of fire?
- (q) Are further precautions for fencing machinery necessary in any factories or class of factories?
- (r) Should arrangements be made to secure uniformity in the administration of the Factory Act throughout India?
- (s) Should full-time medical inspectors of factories be appointed to assist the present inspectors in securing the due observance of the Act?

Questions for the Representatives of Local Governments.

1. What is the strength, the composition, and the pay of the factory inspection establishment in the ^{Presidency} ^{Province}? In what manner is that establishment linked with the administrative machinery of the Government? Is factory administration supervised—and if so in what manner—by officers not forming part of the special factory establishment?
2. How is the factory inspection establishment recruited? Is there any system of training? Has the present system worked satisfactorily; and, if not, in what respects is it considered susceptible of improvement? Is it desirable that the Factory Inspectors should be recruited in the United Kingdom or that, in the alternative, they should be trained there?
3. Is the present establishment adequate? If not, what additions are considered necessary in order to bring it up to a proper strength?
4. It has been suggested that factory administration throughout India should be centralised, and that the direct and supreme control should be vested in the Department of Commerce and Industry. Is this suggestion approved?
5. Is the proposal to employ whole-time Medical Inspectors of Factories approved? If so, should their duties include the certifying of the ages of children in factories, or should that duty continue to be performed by Civil Surgeons as at present? What arrangements would be advisable for their recruitment and appointment? What staff would be required for the ^{Presidency} ^{Province}, what pay is considered adequate, and should the Medical Inspectors be recruited and retained specially for factory work, or should they form part of a large service, such as the Indian Medical Service, or the subordinate Medical Service? Should they be permitted to take private practice, and in what manner should they be fitted into the administrative machinery?
6. The Commission would be glad to learn the opinion of the Local Government, based upon the information at present available, regarding the points referred to the Commission, a statement of which is attached. They would also be glad to receive any suggestions which the Local Government may feel disposed to make for the improvement of the existing law, or for securing its better observance.

Questions for Factory-owners, Agents, Managers, etc.

1. Will you kindly give the names of the factories you represent; also the numbers of men, women, and children employed in each.
2. Will you also state for how many days in each year, during the last 10 years, each of these factories has worked over 12½ hours a day, and what the average daily number of hours has been, for each year, during that 10-year period?
3. A statement of the main points referred to the Commission is appended. Will you kindly give your opinion on the questions raised, or on such of them as you are specially interested in, and which are not dealt with in the succeeding questions?
4. Can you provide the Commission with statistics showing the effect of working days of varying length (a) on the production, *per spindle*, of fine yarn, (b) on waste, and (c) on the economical working of a factory? This information, if available, might suitably be supplied in the form annexed. If not connected with a spinning mill, can you supply similar information in respect of the industry in which you are interested?
5. If certificates of physical fitness as well as of age be required prior to the employment of children on half time, will it, in your opinion, be necessary to prescribe some reasonable time limit within which the employé should be allowed to work, pending examination for a certificate? If this is considered necessary, what period would you suggest, the possibility of the abuse of the concession in certain cases being kept in mind? What arrangements do you consider necessary in order to secure the medical examination of half-timers, and of any other employés upon whose examination the law may insist, with reasonable despatch?

6. It is suggested, under point (h) referred to the Commission, that no half-timer should be permitted to work as an adult unless medically certified as physically fit for full-time work. Assuming that this recommendation is accepted in principle, are you of opinion that it could be applied in practice? What safeguards do you consider necessary and feasible with the object of preventing half-timers who are refused certificates as adults in the factory in which they have worked from obtaining employment as adults at some other factory?

7. Are you in favour of the suggestion under point (c) referred to the Commission, *viz.*, the creation of a class of "young persons" as in the United Kingdom? If so, what limits of age do you consider suitable? If the law be eventually amended so as to create such a class and to restrict their hours of employment, what effect do you anticipate this will have on the hours during which the factories are worked? Will the proportion of women, half-timers, and "young persons" be so large that, as a matter of economical working, the hours fixed for these classes of workers will in fact determine the hours during which the machinery runs? The Commission would be glad to have information as to the probable number of "young persons," assuming an age limit for that class of 14—16, employed in your factory.

8. It is suggested under point (b) referred to the Commission that definite time limits should be prescribed, within which only the employment of operatives would be legal. Assuming that it is eventually decided to restrict the hours of adult labour, should the restriction take the form proposed—the imposition of definite time limits beyond which no operative could be legally employed—or would it be preferable to fix a maximum number of hours, leaving it to the discretion of each individual employer to settle the time for the commencement and the termination of the day's work?

9. If you are of opinion that the special circumstances of the industry in which you are interested are such as to demand exceptional treatment in respect of any of the recommendations or suggestions included in the terms of reference to the Commission, will you kindly state these circumstances, and suggest the form of exception which you consider suitable?

10. It has been suggested that Inspectors from the United Kingdom should be obtained for factory work in India. Do you approve of this suggestion? And do you consider that, in any event, all Factory Inspectors should in future receive a considerable portion of their training in England?

11. Do you consider it essential that any law which it may eventually be decided to introduce, if more stringent than that at present in force, should contain provisions introducing a certain amount of elasticity in its actual operation? If so, have you any suggestions to make as to the general line on which these provisions should proceed?

12. Have you any suggestions to make as regards the housing of factory hands?

13. Are there any other matters which you wish to bring to the notice of the Commission?

Mill.

Working day of *	Production per spindle per hour of 10 ^s . (Please state whether mule or ring spindle.)	Production of reeling yarn per spindle per hour of 20 ^s . (Please state whether mule or ring spindle.)	Percentage of waste.	Period covered by these statistics.
12 hours.				
13 hours.				
14 hours.				

* Other working periods may be given, and it is particularly requested that such information may be supplied whenever available.

Questions for Owners, Agents, and Managers of ginning mills and cotton presses.

1. Will you kindly give the following information about the ginning mills or presses with which you are connected? :—

(a) name of mill or press;

(b) number of men, women, and children usually employed in each mill or press;

- (c) period during which the mill or press usually works (giving approximate dates of commencing and stopping work);
- (d) usual hours during which the ginning mill or press works?
2. What is the average number of hours a person employed in a ginning mill or press works in 24 hours? Have they any intervals of rest in this time?
3. Do you approve of the proposal to bring under the Factory Act ginning mills and presses, irrespective of the number of months they work in a year? Please give full reasons for your reply.
4. It has been suggested that the employment of women on night work should be prohibited. Do you approve of this suggestion? Please give full reasons for your reply.
5. Assuming that it is decided to make the Factory Act applicable to all ginning mills and presses, do you think that any special provisions modifying the general law would be necessary in the case of ginning mills or presses? Please give full reasons for any suggestion you make.
6. It has been stated that, in a large number of ginning mills, the line shaft is inadequately fenced. Do you agree with this view, and do you see any objection to prescribing that the shafting must be cased in between the drums? Should women be prohibited from working in front of the opener? What suggestions can you make to prevent accidents from stones being hurled out from the opener, or from fires occurring there? What accidents have there been in your mills or presses during the last five years?
7. Are there any other matters which you wish to bring to the notice of the Commission?

Questions for Medical Witnesses.

1. A statement of the main points referred to the Commission is appended. Will you kindly give your opinion on the questions raised, or on such of them as you are specially interested in, and which are not dealt with in the succeeding questions?
2. What class of factory operatives are you acquainted with? Can you supply the Commission with statistics showing the relative healthiness of these operatives, as compared with the general average of the non-factory population of the same class? Have you formed any definite opinion on this subject, as a result of your experience, although you may be unable to support that opinion by statistics?
3. Is the factory population, in your opinion, below or above the general average of the same class as regards physique? Do the operatives you are acquainted with suffer more than the general population of the same class from any specific classes of diseases, and can you supply any statistics regarding this matter?
4. In the event of definite limiting ages being prescribed as regards certain classes of factory workers, what would in your opinion be the most suitable method, of general applicability, for the determination of the age of any particular examinee? Can the dentition test be relied on in India? What in your opinion is the average age at which the permanent teeth appear in Indian children:—
- | | |
|------------------------|-------------------------|
| (a) Central incisors. | (e) Posterior bicuspid. |
| (b) Lateral " | (f) Anterior molars. |
| (c) Canines. | (g) Second " |
| (d) Anterior bicuspid. | (h) Posterior " |
5. Is it your experience, based upon actual knowledge of specific cases, that the existing law as to the employment of children in factories is evaded, and, if so, to what extent; either by employing as half-timers children under 9, or by employing as adults children under 14? Can you give any statistical basis for your opinion?
6. Are you in favour of the appointment of whole-time Medical Inspectors? If so, what arrangements would you suggest for their recruitment and appointment. What pay should they receive, should they be recruited and retained specially for factory work, or should they form a branch of a large service such as the Indian Medical Service or the Subordinate Medical Service? Should they be permitted to take private practice? And in what manner should they be fitted into the administrative machinery?
7. Do you consider the standard suggested by the Textile Factory Labour Committee for latrine accommodation—one seat for every 25 persons—suitable? If not, what standard would you propose?
8. Are there any other matters which you wish to bring to the notice of the Commission?

Questions for General Witness.

1. A statement of the main points referred to the Commission is appended. Will you kindly give your opinion on the questions raised, or on such of them as you are specially interested in?
2. Are there any other matters which you wish to bring to the notice of the Commission?

APPENDIX B.

Demi-official letter from Lieutenant-Colonel C. Mactaggart, I.M.S., to W.T. Morison, Esq., I.C.S., President, Factory Labour Commission, dated Lucknow, the 18th March 1908.

As requested by you I submit the following memorandum on the medical part of the work of the Factory Commission in the Bombay Presidency.

My views are founded entirely on what I saw and heard in the Bombay Presidency, and it is quite possible that they might have been very materially modified had I had an opportunity of seeing the factory operatives in other parts of India. I have no tabulated figures before me while writing this report, and I may add that the state of my health is at present such as to prevent my writing much on any subject. I hope you will, therefore, accept a short report and pardon its imperfections.

While the Commission was in the Bombay Presidency I saw in Bombay, Ahmedabad, and Broach many thousands of factory operatives—men, women, and children. During the last 18 years it has been my duty to inspect large bodies of men and form an opinion as to their general health and physical condition, and in such work I certainly have had as much experience as almost any officer in the Indian Medical Service. Although therefore I cannot quote figures, I think the general conclusion which I have come to with regard to the physical condition of the factory operatives in the Bombay Presidency is entitled to considerable weight at the hands of the Commission. I am distinctly of opinion that the physical condition of the factory operatives in Bombay is in every way excellent, and that it compares favourably with that of agricultural labourers and men of the cooly class generally. The vast majority of the men and women working in the factories appeared to me to be in excellent health. They seemed well nourished, had healthy skins, and in very few cases did I notice any signs of malnutrition or of disease either hereditary or acquired. The marked absence of all signs of tubercular disease of glands or joints led me to think that tubercle, in spite of the assertion of one medical witness to the contrary, cannot be common among factory operatives in Bombay. Speaking generally and judging from the condition of the operatives, I have absolutely no reason to think that the hours of labour now in force in the Bombay factories have any bad effect on the health of the operatives.

Dr. Turner, the Health Officer of Bombay, submitted to the Commission figures, which appeared to have been very carefully prepared, comparing the health of the factory operatives and their dependants with that of other inhabitants of Bombay in the same class of life. I have not his figures before me, but my recollection is that they clearly shewed that the mortality among factory operatives was considerably lower than that recorded among the other classes referred to. Statistics require to be carefully examined and local circumstances carefully considered in judging of their value, but Dr. Turner's figures certainly gave me the impression of having been prepared with care, and taken in conjunction with the result of my own observations proved to me that the health of the Bombay factory operative is probably better and certainly not worse than that of other classes of similar social standing in the general population.

*Some people may find it difficult to realize that the conditions under which the factory hand works can be as healthy as those under which the agricultural labourer or the cooly lives and labours, and probably in England and in many other countries they may not be so. In India, however, the conditions are different. I have had an opportunity for many years past of noticing the comparative health of large bodies of prisoners working respectively in factories and on extra-mural labour such as agricultural work, gardening, and general cooly labour, and I have no hesitation in saying that I have invariably found that the men employed on factory work are much more healthy and far less liable to disease than those employed on extra-mural labour. It was, therefore, no surprise to me to find that the factory operatives in Bombay were a healthy set of men. The only real advantage which the agricultural labourer and cooly has over the factory labourer, as regards the hygienic conditions under which he works, is abundance of fresh air. On the other hand the man working outside is much more exposed to the vicissitudes of a tropical climate than the factory operative is; he is obliged to work in the intense heat of the tropical sun in the hot weather, and in the cold weather is exposed to intense cold and damp while employed in such labour as irrigating rice and other crops. The work of the cooly and agricultural labourer, apart from exposure to the vicissitudes of climate, is also, in my opinion, much harder physical labour than that of the factory operative, whose labour, while it undoubtedly necessitates constant attention, can in no way be said to be physically hard work. Another factor, which undoubtedly has an enormous influence in conducing to good health among the factory operatives, is the fact that they receive very high wages and are able thus to

obtain far better food than the cooly or agricultural labourer can afford. I do not think that there can be any doubt that the lower classes in this country are habitually under-fed and that their health and physique therefore suffer. I am inclined to think that one of the chief reasons for the good health of the factory operative lies in the fact that he is well paid and well fed. While in Bombay we heard a good deal as to the drinking habits of the factory operatives, but I am inclined to think that the witnesses exaggerated when dealing with this matter, and I certainly noticed no signs of chronic alcoholism among the factory operatives. Native gentlemen, who by caste and religion are prohibited from touching alcohol, are, I think, frequently inclined to exaggerate when describing the drinking habits of even very moderate drinkers. It is quite probable that most of the factory operatives in Bombay do indulge in a "tot" of liquor after their day's work is done, but they are well able to afford this luxury without depriving themselves of the necessities of life, and I doubt if all the alcohol they drink does them any particular harm.

On the whole I must emphatically say that in my opinion it cannot be said with truth that the hours now worked in the Bombay factories have any injurious effect on the health of the operatives. Whether on social, moral, or political grounds it is advisable to take steps to limit the working hours for adult males in factories is another question, but my own opinion, founded on what I saw and heard while a Member of the Commission in the Bombay Presidency, is that there exist absolutely no real grounds, medical or otherwise, which would justify Government in directly limiting the hours of adult male labour in factories by legislative enactment.

I am in favour of the creation of a special class of "young persons" to include all males between the ages of 14 and 18 years of age, whose hours of labour should be limited to 12½ hours, inclusive of half an hour's interval in the middle of the day. While Government has, in my opinion, no justification for interfering directly with the working hours of adult males, I think it is right and proper that it should step in to prevent "young persons" from being overworked. While I do not think that, at present, in the Bombay Presidency "young persons" are overworked, I think there can be no doubt that they were overworked in 1905, and the same thing will happen again should trade revive and the demand for yarn rise as it did in 1905. "Young persons" between 14 and 18 are just those who are likely to suffer permanently from the effects of overwork even for a limited period. They are also the persons most likely to be driven to working for longer hours than they wish to work, and in any case they are, owing to want of experience, incapable of judging what is good for them as, we must presume, the adult labourer is. If a class of "young persons" is formed, as I suggest, their age must of course be certified and registers containing the names of those employed must be maintained in factories. This will certainly give rise to a good deal of trouble and an increase in clerical work in factory offices, but the due protection of "young persons," in my opinion, justifies the imposition of these inconveniences on millowners and managers. It might be enacted that in every case where a millowner admits that he employs young persons and undertakes that he will not work his engine for a longer period on any day than 12½ hours, including half an hour's interval, that he should be excused from maintaining any register of young persons, but any breach of this undertaking on the part of the millowner or manager, should be punished by a very severe penalty. I do not think it is necessary to have a certificate of physical fitness in the case of young persons, but the arrangement for certifying their age should be much the same as will afterwards be described when dealing with the case of "children." It has been stated, and probably with truth, that the effect of creating a class of "young persons" with limited hours of labour will be to indirectly limit the working hours of adult males as it will be impossible to work the mills profitably without "young persons." If such is the case so much the better. I see nothing dishonest in this policy. Its primary object is to protect those who require protection, viz., the "young persons," and if it indirectly also protects adult males from over working themselves, through greed for extra pay, its effects will be all the more beneficial.

The women working in the factories seemed to me to be a particularly healthy lot and quite capable of working the same hours as I have suggested for "young persons."

The children employed in the factories appeared to me to be on the whole healthy and well cared for and quite capable of doing 7 hours' work daily. I do not advocate reducing hours of "half-timers" unless you decide on a 12-hour day for adults, or introduce a "young persons" class with a 12-hour day for them, in which case it would be well and prevent irregularities if "half-timers" were limited to 6 hours, i.e., half the time of the adults or young persons. There can be no question but that the certifying of children for factory work has been carelessly done in the Bombay Presidency, and I saw large numbers of children obviously under 9 years, although certified as over that age, working in the mills. In my opinion it is absolutely necessary, if Government wishes to enforce the regulations as to the employment of children, that in places like Bombay and Calcutta, where there are a large number of factories, a full-time certifying medical officer should be employed. He should be paid by Government and should be strictly prohibited from accepting any fees from the mills.

In the smaller stations the certifying of children might be done by the Civil Surgeon, but in such cases also he should be paid by Government for any work he does and not by the mill-owners. The medical officer, besides certifying as to the child's age, should certify that the child is physically fit for factory work. I am strongly of opinion that no child should be permitted to work for a single day before it has been certified. If "days of grace" are allowed during which a child can be employed before being certified, the result will certainly be that children will be irregularly employed and that the provisions of the Act will be systematically evaded. Besides a thumb impression, every child's certificate should give two distinctive clear marks by which the child can be easily identified, and these distinctive marks should be entered by the medical officer with his own hand. Every child should carry his certificate on his person. The practice in the Ahmedabad mills shows that this can be easily done and the advantage to an inspecting officer of being able immediately to refer to any child's certificate is obvious. It should be laid down in any future Factory Act that children should work in two sets of six or seven hours as the case may be and that a register showing the names of the children working in each set should be written up daily and be ready for inspection by 8 A.M. The penalty for not keeping up this register should be severe and the responsibility for its upkeep should rest on the mill manager himself. Children should only be allowed inside the mill compound during the hours in which their set is actually supposed to be employed, and for example, any child of "B" set found within the mill compound during the working hours of "A" set, should be considered as being irregularly employed and the onus of proof that he is not so irregularly employed, should rest on the mill manager. Schools in mill compounds should be prohibited. If mill children are to be sent to school, Government or Municipal schools for them should be provided and the attendance registers should be open to inspection by the Factory Inspectors. I consider that for a child, who works six hours a day in a factory, the school hours should not exceed two.

I am of opinion that the Government should lay down a standard of ventilation for factories. This should be done by indicating an amount of carbonic acid which must not be exceeded in the atmosphere of any factory. The limit of carbonic acid permissible should be determined after careful experiments carried out by competent officers.

It is, in my opinion, impossible to lay down any standard of humidity for the air of Indian factories. During the monsoon, the amount of moisture in the external atmosphere approaches "saturation" and it would thus be obviously impossible to enforce any standard which limited the humidity permissible in workshops.

In my opinion the standard of latrine accommodation laid down in the Factory Act is quite sufficient. I visited many mills in the early morning when the latrine accommodation might be supposed to be most severely taxed, and in no case did I notice that the accommodation was insufficient or that the workmen were waiting for admission to the latrines.

Separate urinal accommodation should be insisted on. The latrines I saw were in many instances very foul, but this is one of the many defects in the control of factories which can only be got over by more efficient inspection.

I think I have now touched on most of the important points from a medical point of view which were disclosed during the stay of the Commission in the Bombay Presidency.

APPENDIX C.

Statement showing the average weights of prisoners and of mill operatives.

Province.	Number of prisoners weighed.	Average weight in lbs.	Number of operatives, other than weavers, weighed.	Average weight in lbs.	Number of weavers weighed.	Average weight in lbs.	REMARKS.
Bombay	2,656	112·12	735	102·093	288	104·810	
Central Provinces	1,746	110·45	100	100·92	52	107	
Bengal	6,834	106·187	140	107·939	32	106·25	Average weight of prisoners in the United Provinces 115·08 lbs.
Eastern Bengal and Assam	3,046	110·846	20	108	..	..	
Burma	6,340	120·51	42	117·142	..	..	Average weight of prisoners in the Rajamundry Central Jail, Madras, 125·7 lbs. in Madras generally 114·38 lbs.
Madras	7,818	114·38	104	103·634	20	98	
United Provinces of Agra and Oudh	9,680	115·08	177	107·016	200	110·705	
Punjab	5,998	120·42	115	113·808	..	..	

[NOTE.—In Bengal probably the most accurate comparison is with prisoners in the United Provinces; in Burma with prisoners in Madras generally, and more particularly with prisoners in the Rajamundry Central Jail, which is situated in the tract from which the majority of the Madras labourers in Burma are recruited.]

APPENDIX D.

Comparative statement of production in certain Calcutta jute mills for working days of varying length.

MONTH.					YEAR 1906 (DAYLIGHT HOURS) ONLY.				YEAR 1907 (WITH ELECTRIC LIGHT).				Percentage by which the production per hour in the shorter day (column 8) exceeds that in the longer day (column 9).
					No. of working days.	No. of hours worked per day.	Total production.	Production per hour.	No. of working days.	No. of hours worked per day.	Total production.	Production per hour.	
							Tons.	Tons.			Tons.	Tons.	
MILL A.													
January	..	..	..	..	27	11½	1,761	5.67	26	14½	2,044	5.42	4.61
February	..	..	..	..	23	12	1,602	5.89	24	14½	1,863	5.35	10.09
March	..	..	..	..	26	12¼	1,844	5.75	26	14½	1,933	5.13	12.08
April	..	..	..	..	25	13	1,737	5.37	26	14½	1,854	4.92	9.14
May	..	..	..	..	27	13¼	1,925	5.35	27	14½	1,788	4.56	17.32
June	..	..	..	..	26	13½	1,963	5.52	25	14½	1,841	5.07	8.87
MILL B.													
January	..	..	..	..	27	11½	1,596	5.14	26	14½	1,769	4.7	9.36
February	..	..	..	..	23	12	1,410	5.17	24	14½	1,556	4.47	15.65
March	..	..	..	..	26	12¼	1,654	5.15	26	14½	1,630	4.32	19.21
April	..	..	..	..	25	13	1,558	4.79	26	14½	1,480	3.92	22.19
May	..	..	..	..	27	13¼	1,699	4.72	27	14½	1,462	3.73	26.54
June	..	..	..	..	26	13½	1,690	4.75	25	14½	1,488	4.10	15.85
MILL C.													
January	..	..	..	..	27	11½	1,702	5.48	26	14½	2,084	5.53	17.17
February	..	..	..	..	23	12	1,518	5.58	24	14½	1,841	5.28	5.68
March	..	..	..	..	26	12½	1,851	5.77	26	14½	1,960	5.20	10.96
April	..	..	..	..	25	13	1,713	5.27	26	14½	1,901	5.04	4.56
May	..	..	..	..	27	13¼	1,802	5.00	27	14½	1,864	4.76	5.04
June	..	..	..	..	26	13½	1,900	5.35	25	14½	1,856	5.12	4.49

NOTE.—In January–March the labour supply was slightly better in 1906 than in 1907; otherwise the conditions were similar. In April–June 1907 the production was below the normal, because of a shorter labour supply, and the making of lighter fabrics than in 1906.

NN

APPENDIX E.

DRAFT BILL.

WHEREAS it is expedient to amend the law regulating labour in factories; it is hereby enacted as follows:—

Preamble.

PRELIMINARY.

1. (1) This Act may be called the Indian Factories Act, 190 .

Short title, commencement, repeals and extent.

(2) It shall come into force on ; and from that date Act No. XV of 1881 and Act XI of 1891 shall be repealed.

(3) It applies to the whole of British India.

2. In this Act, unless there is something repugnant in the subject or context,—

(1) “factory” means any premises (other than indigo-factories or premises situated on, and used solely for the purposes of, a tea or coffee plantation) wherein is carried on any process for, or incidental to, making, altering, repairing, ornamenting, finishing or otherwise adapting for use, transport, or sale any article or part of an article; and—

(a) wherein steam, water, or other mechanical power is used in aid of any such process; and

(b) wherein, subject to the provisions of section 38, not less than fifty persons are on any day simultaneously employed in any manual labour in, or incidental to, any such process; and

every part of a factory shall be deemed to be a factory, except any part used exclusively as a dwelling:

(2) “child” means a person who is under the age of fourteen years, and who has not, being of the age of thirteen years, both passed such educational test as the Local Government may from time to time notify under this sub-section and been declared by the certifying surgeon to be fit to work daily for the time allowed by law for a young person:

(3) “young person” means a person who has ceased to be a child and is under the age of seventeen years:

(4) “woman” means a woman of the age of seventeen years and upwards:

(5) “mill-gearing” includes every shaft, whether upright, oblique, or horizontal, and every wheel, drum, pulley, rope, driving strap or band, by which the motion of the first moving power is communicated to any machine:

(6) a person who works in a factory, whether for wages or not, in a manufacturing process or handicraft, or in cleaning any part of the factory used for any manufacturing process or handicraft, or in cleaning or oiling any part of the machinery, or in any other kind of work whatsoever incidental to, or connected with, the manufacturing process or handicraft, or connected with the article made or otherwise the subject of the manufacturing process or handicraft therein, shall be deemed to be employed therein within the meaning of this Act:

(7) a person shall not be deemed to be actually employed, within the meaning of sections 9, 10, and 11, during any stoppage of work allowed under section 7 or any other interval of not less than half an hour's duration duly notified under section 14:

(8) a factory shall be deemed to run continuously unless the running is interrupted by an interval of at least half an hour.

INSPECTORS AND CERTIFYING SURGEONS.

3. (1) The Governor-General in Council may, by notification in the *Gazette of India*, appoint a chief inspector of factories in India and may regulate the manner in which he is to perform his duties under this Act.

(2) The Local Government may in its discretion, by notification in the official Gazette, appoint, by name or by office, such persons as it thinks fit to be inspectors of factories within such local limits as it may assign to such inspectors.

The District Magistrate shall, in virtue of his office, be an inspector of all factories, if any, in his district.

(3) Such chief inspector and inspectors shall be deemed public servants, within the meaning of the Indian Penal Code, and shall be officially subordinate to such authority as the Governments appointing them may from time to time indicate in this behalf.

4. The chief inspector of factories, and an inspector of factories within the local limits for which he is appointed, may—

(a) enter, with such assistants (if any) as he thinks fit, any factory whenever he has reason to believe that any person is employed therein;

(b) make such examination of the premises and machinery, and of the registers hereinafter prescribed, and take on the spot or otherwise such evidence of any persons as such inspector may deem necessary for carrying out the purposes of this Act;

(c) exercise such other powers as may be necessary for carrying this Act into effect.

5. The Local Government may appoint, by name or by office, such *Certifying surgeons.* persons practising medicine or surgery as it thinks fit to be certifying surgeons for the purposes of this Act within such local limits as it may assign to each, and may make rules for the performance of their duties.

6. (1) A certifying surgeon shall, at the request of any person under the age of seventeen years desirous of being employed in a factory situated within the local limits to which he is appointed, or of the parent or guardian of such person, or of the occupier of the factory in which such person desires to be employed, and on payment of such fee, if any, as may from time to time be prescribed by the Governor-General in Council, examine such person and grant him a certificate specifying his age as nearly as it can be ascertained and, if such person is under fourteen years of age, stating whether he is fit for employment in a factory. Such certificate shall be made over to the person examined, and shall be his property.

(2) The certificate shall be in such form as the Governor-General in Council may from time to time prescribe.

(3) A certifying surgeon may empower any qualified medical practitioner to grant, on personal examination, provisional certificates to persons desirous of being employed in any specified factory or factories, and may revoke such authority. A provisional certificate shall be subject to confirmation, on personal examination of the person named therein, by the certifying surgeon, and shall be valid only until the date of the first visit of the certifying surgeon to the factory concerned, after the date on which it was issued.

EMPLOYMENT OF OPERATIVES.

7. (1) In every factory, except a factory in which a system of employment in shifts approved by the local inspector is in force, there shall be, after the factory has run continuously for not more than six hours, an entire stoppage of all work for not less than half an hour.

Provided that nothing in this section shall apply to—

- (a) flour mills, rice mills, or ice factories, or
- (b) continuous processes in a tannery, sugar refinery, brewery, distillery, mineral-oil refinery, cement works, chemical works, and kilns connected with potteries, or
- (c) work in any factory in the boiler-house or engine-room, or as a mechanic, or on the processes of hand-packing and hand-baling, or
- (d) any factory of a class to which the Governor-General in Council has, by notification in the *Gazette of India*, declared this section not to apply.

(2) No system of shifts in which the hours of the beginning and ending of the actual employment of each operative in each shift have not been fixed by the occupier of the factory shall be recognised for the purposes of this section.

8. (1) No person shall be employed in any factory on a Sunday:

Holidays.

(2) Provided as follows:—

(a) any manager, foreman, mechanic, artisan, or labourer may be employed in a factory on a Sunday in examining or repairing, or in supervising or aiding in the examination or repair of, any machinery or other thing whatsoever necessary for the carrying on of the work performed in the factory;

Explanation.—Periodical cleaning is not included in the terms “examining or repairing”;

(b) any person may be employed on a Sunday in an ice-factory, and on continuous processes in a tannery, sugar-refinery, brewery, distillery, mineral-oil refinery, cement works, chemical works, glass work, and in kilns connected with potteries;

(c) any person may be employed in a factory on a Sunday if he has had or will have a holiday for a whole day on one of the three days immediately preceding or succeeding the Sunday, and if the occupier of the factory has, previous to the Sunday or to the substituted day, whichever is earlier, served on the local inspector notice of his intention so to employ the said person;

(d) the Local Government may from time to time, by notification in the official Gazette, declare sub-section (1) of this section not to apply to any factory or class of factories (the factory or class being described in the notification) in which the work performed—

(i) necessitates continuous production for technical reasons; or

(ii) supplies the public with articles of prime necessity which must be made every day; or

(iii) by the exigencies of the trade or by its nature cannot be carried on except at stated seasons or at times dependent on the irregular action of natural forces; and

(e) the Governor General in Council may from time to time, by notification in the *Gazette of India*, declare sub-section (1) of this section not to apply to factories of any class described in the notification.

9. (1) No child shall be employed in any factory unless he has obtained a certificate under section 6 of this Act to the effect that he is of a specified age not less than nine years, and is fit for employment in a factory.

(2) No child shall be employed in any factory before half-past five o'clock in the morning or after seven o'clock in the evening.

(3) No child shall be actually employed in any factory for more than six hours in any one day.

(4) The period of employment of a child shall not in any one day be spread over more than eight and a half consecutive hours.

10. (1) No young person shall be employed in *Employment of any factory unless he has obtained a certificate under section 6 of this Act showing that he is not less than fourteen years of age;*

Provided that if a young person can, by the production of a certificate obtained by him as a child under section 6 of this Act, show that he has since attained the age of fourteen years, no further certificate shall be required under this section.

(2) No young person shall be employed in any factory, except a factory for ginning cotton, before half-past five o'clock in the morning and after seven o'clock in the evening:

Provided that, if the exigencies of trade so demand, the Governor General in Council may from time to time, by notification in the *Gazette of India*, declare this sub-section not to apply to young persons employed in factories of any class described in the notification.

(3) No young person shall be actually employed in any factory for more than twelve hours in any one day.

11. (1) No woman shall be employed in any *Employment of factory, except a factory for women.* ginning cotton, before half-past five o'clock in the morning or after seven o'clock in the evening.

(2) No woman shall be actually employed in any factory for more than twelve hours in any one day.

12. No occupier of a factory shall employ therein on any day any woman, *Prohibition of employment of woman, young person, or child in two factories on same day* young person, or child who has to his knowledge already been employed on the same day in any other factory.

13. In every factory there shall be kept, in such *Registers of young persons and children.* form and manner and with such particulars as the Governor General in Council may from time to time prescribe, a register of the young persons and children (if any) employed in such factory, and of their respective employment.

14. (1) There shall be affixed in some conspicuous place near the main entrance of every factory a notice, in English and the language of the majority of the operatives in such factory, setting forth the following particulars—

(a) the hours of stoppage of work under section 7.

(b) the hours of beginning and ending work for each shift (if any) approved under section 6,

(c) the hours of employment of women and young persons (if any),

(d) the hours of employment of children (if any) according to the different sets, and

(e) the compulsory holidays on which the factory will be closed during the current month.

A copy of the notice shall be sent so as to reach the local inspector not later than the first day of the month to which it relates.

15. (1) The provisions of sub-section (1) of section 10 and section 13 as to the certification

Special provision as to employment of young persons in factories working not more than 12 hours a day. and registration of young persons shall not apply to any young person employed in a factory which is conducted on the system of working not more than twelve hours a day, exclusive of any stoppage under section 7, and the occupier of which has previously served on the inspector notice of his intention to conduct the factory on such system from a specified date.

(2) When the occupier of a factory has served on the inspector notice of his intention as aforesaid, the factory shall be deemed to be worked on that system from the date specified in the notice until the occupier changes it, and, subject to the exception made in sub-section (4), any person actually employed during such period in that factory for more than twelve hours on any one day shall be deemed to be employed contrary to the provisions of the Act.

(3) When the above system has been introduced in a factory, no change shall be made within three months of its introduction, and until the occupier has served on the inspector notice of his intention to change the system from a specified date.

(4) In a factory conducted on the above system, the restriction of the period of actual employment to twelve hours a day shall not apply to any person not less than seventeen years of age who is employed in the said factory in the boiler house or engine room, or as a mechanic, or on the processes of calendering, sewing, bundling, packing, or baling.

16. Nothing in section 10 shall apply to any *Saving for young persons employed in repairs.* young person being a mechanic, artizan, or labourer, working only in repairing either the machinery in or any part of a factory.

HEALTH AND SAFETY.

17. The following provisions shall apply to *Sanitary provisions.* every factory:—

(a) it shall be kept in a cleanly state;

(b) it shall be kept free from *filth* arising from any drain, privy, or other nuisance;

(c) it shall not be so overcrowded while work is carried on therein as to be dangerous or injurious to the health of the persons employed therein;

- (d) it shall be ventilated in such a manner as to render harmless, as far as practicable, any gases, vapours, dust, or other impurities generated in the course of the work carried on therein that may be injurious to health.

18. (1) If in a factory in which any process is carried on by which dust or other impurity is generated and inhaled by the workers to an injurious extent it appears to the local inspector that such inhalation could be to a great extent prevented by the use of a fan or other mechanical means, the local inspector may direct that a fan, or other mechanical means of a proper construction for preventing such inhalation be provided, maintained, and used within a reasonable time.

(2) Any order under sub-section (1) may be set aside, on appeal or otherwise, by the Local Government or such authority as it may appoint in this behalf.

19. In every factory in which the spinning or weaving of cotton is carried on the arrangements for ventilation shall be such that during working hours in no part of the factory shall the proportion of carbonic acid (carbon dioxide) exceed such amount as may be prescribed by the Governor General in Council by notification under this section.

20. In any factory in which humidity of the atmosphere is produced by artificial means the water used for the purpose of producing humidity shall be taken either from a public supply of drinking water, or from other source of water ordinarily used for drinking, or shall be effectively purified to the satisfaction of the inspector before being used for the purpose of producing humidity.

21. Every factory shall be provided with suitable latrine accommodation for its operatives according to such scale as may be prescribed by the Local Government by notification under this section.

22. In every factory there shall be maintained a sufficient water-supply for the use of the persons employed in the factory.

23. In every factory, the construction of which was not commenced before the date on which this Act came into force, the doors of each room in which more than thirty persons are employed, shall, except in the case of sliding doors, be constructed so as to open outwards.

24. (1) Every factory shall be provided with such means of escape in case of fire for the persons employed therein as can reasonably be required in the circumstances of each case.

(2) In the case of any factory which is not so provided the local inspector may serve on the

occupier of the factory a notice in writing specifying the measures necessary for providing such means of escape, and requiring him to carry them out before a specified date.

(3) Any order under sub-section (2) may be set aside, on appeal or otherwise, by the Local Government or such authority as it may appoint in this behalf.

25. (1) (a) Every fly-wheel directly connected with a steam-engine, water-wheel or other mechanical power in any part of a factory, every part of a steam-engine or water-wheel, and every other part of the machinery or mill-gearing of a factory which may, in the opinion of the local inspector, be dangerous if left unfenced, shall, while the same is in motion, and

(b) every hoist or teagle, and every hoist-well, trap-door or other similar opening near which any person is liable to pass or be employed, shall at all times, be kept by the occupier of such factory securely fenced to the satisfaction of and in accordance with any orders given by the local inspector.

(2) Any order under sub-section (1) may be set aside, on appeal or otherwise, by the Local Government or such authority as it may appoint in this behalf.

26. No woman, female young person, or child shall be allowed to clean any part of the mill-gearing or machinery of a factory while the same is in motion, or to work between the fixed and traversing parts of any self-acting machine while such machine is in motion by the action of the steam engine, water-wheel, or other mechanical power, as the case may be.

27. No woman, female young person, or child shall be employed in the part of a factory for pressing cotton in which a cotton-opener is used, provided that if the feed-end of the cotton-opener is in a room entirely separated from the delivery-end by a partition extending from the floor to the roof, then women, female young persons, and children may be employed in the room in which the feed-end of the opener is situated.

28. When any accident occurs in a factory causing death, or bodily injury, whereby the person injured is prevented from returning to his work in the factory during the forty-eight hours next after the occurrence of the accident, notice of such accident should be sent to such authorities in such form and within such time as the Local Government may from time to time by rule direct.

PENALTIES.

Penalties. 29. (1) If in any factory—

(a) any person is employed or allowed to work contrary to any of the provisions of this Act;

- (b) a register is not kept in the manner prescribed under section 13;
- (c) a notice is not set up and maintained, and a copy thereof sent to the local inspector, as required by section 14;
- (d) any of the provisions of sections 17 and 19 for cleanliness, ventilation; and overcrowding are not complied with;
- (e) any order of an inspector under sections 18 and 24 is not complied with;
- (f) water is used for the purpose of producing humidity in contravention of the provisions of section 20;
- (g) a sufficient supply of water for the persons employed is not maintained;
- (h) latrine accommodation is not provided in accordance with the provisions of section 21;
- (i) any machinery, mill-gearing, hoist, teagle, or opening is not kept fenced as required by section 25;
- (j) any door is constructed and maintained in contravention of section 23;
- (k) any notice or return required by this Act, or by rules under it, to be furnished is not furnished;
- (l) any other act prohibited or prescribed by this Act or any order or rule made thereunder is done or is omitted to be done;

the occupier of the factory shall be liable to fine which may extend to two hundred rupees :

Provided that—

- (i) no prosecution under this sub-section shall be instituted except by, or with the previous sanction of, the local inspector; and
- (ii) no person shall be liable under this sub-section to more than one penalty for any one description of offence committed on the same day, except where two or more persons are employed contrary to the provisions of this Act, in which case one penalty may be imposed in respect of each person so employed.

(2) Any person who corruptly uses or attempts to use, as a certificate granted to himself under section 6, a certificate granted to another person under that section, or who, having procured a certificate under the said section, corruptly allows it to be used, or an attempt to use it to be made, by another person, shall be punished with fine which may extend to twenty rupees.

30. If any person wilfully delays an inspector *Obstruction to* in the exercise of any power *inspectors.* under section 4, or fails to produce, on demand by an inspector, any registers or other documents kept in pursuance of this Act, or conceals or prevents, or attempts to prevent, any person employed in a factory from appearing before or being examined by an inspector, he shall be liable to fine not exceeding two hundred rupees :

Provided that no one shall be required to answer any question or to give any evidence to criminate himself.

31. (1) When the occupier of a factory is charged with an offence against this Act, he shall be entitled, upon information duly laid by him, to have any other person whom he charges as the actual offender brought before the Court at the time appointed for hearing the charge; and if, after the commission of the offence has been proved, the occupier of the factory proves to the satisfaction of the Court—

- (a) that he has used due diligence to enforce the execution of this Act, and
- (b) that the said other person had committed the offence in question without his knowledge, consent, or connivance,

that other person shall be convicted of the offence, and the occupier shall be discharged from any liability under this Act.

(2) When it is made to appear to the satisfaction of an inspector at the time of discovering an offence—

- (a) that the occupier of the factory has used all due diligence to enforce the execution of this Act, and
- (b) by what person the offence has been committed, and
- (c) that it has been committed without the knowledge, consent, or connivance of the occupier and in contravention of his orders,

the inspector shall proceed against the person whom he believes to be the actual offender without first proceeding against the occupier of the factory.

32. If a person over the age of six years is *Presumption as* found inside any room or other *to employment.* part of a factory in which any manufacturing process or work incidental to any manufacturing process is being carried on, he shall, until the contrary is proved, be deemed to have been then actually employed in that factory.

33. When an act or omission would, if a person *Evidence as to* were under or over a certain *age.* age, be an offence punishable under this Act the statement on oath of a certifying surgeon that he has personally examined the said person and believes him to be under or over a stated age shall, in the absence of a birth-certificate or of a certificate granted under section 6, be conclusive evidence of the age of that person.

34. (1) Every person shall, within one month *Person beginning* after he begins to occupy a *to occupy factory* factory, send to the local *to give notice,* inspector a written notice containing the name of the factory and of the place where it is situate, the address to which he desires his letters to be addressed, the nature of the work performed in such factory, the nature and amount of the moving power therein, and the name of the person under whom the business of the factory is to be carried on.

(2) If the person under whom the business of the factory is carried on be changed, the occupier for the time being shall send to the local inspector, within seven days from the date on which the change was made, a written notice stating the name of the person under whom the business of the factory will in future be carried on.

(3) During the absence of the occupier of the factory from British India, the person under whom the business of the factory is carried on shall be deemed to be the occupier of the factory for all the purposes of the Act.

MISCELLANEOUS.

35. The hours of day prescribed in sub-section (2) of sections 9 and 10 and sub-section (1) of section 11 shall be deemed to be hours of local mean time:

Provided that for the purpose of factories situated at places where local mean time is not the Government standard of time, the Local Government shall declare by notification that certain specified hours of Indian standard time shall be substituted, in each such place or district, for the hours of local mean time prescribed in these sections, and thereafter these sections shall, for the purpose of all factories situated at such places, be read as if the substituted hours of Indian standard time were prescribed therein.

36. (1) Subject to the control of the Governor General in Council, the Local Government may from time to time make rules consistent with this Act to provide for

- (a) the fencing of machinery, mill-gearing, hoists and teagles, and hoist-wells, trap-doors and other similar openings, in factories;
- (b) the water-supply to be maintained for the use of persons employed in factories;
- (c) the ventilation of factories and their cleanliness (including lime-washing, painting, varnishing, and washing) and freedom from effluvia arising from any drain, privy, or other nuisance;
- (d) the prevention of such overcrowding of factories, while work is carried on therein, as is likely to be injurious to the health of the persons employed therein;
- (e) the inspection of factories;
- (f) the manner in which appeals under this Act are to be presented and heard; and
- (g) otherwise carrying out the purposes of this Act.

(2) The Governor General in Council may from time to time make rules requiring occupiers of factories to furnish such returns, occasional or periodical, as may be necessary for the effectual carrying out of this Act.

(3) Such rules shall be published in the local official Gazette or the *Gazette of India*, as the case may be, and shall thereupon have the force of law.

(4) Before making rules under clause (b), clause (c), or clause (d) of sub-section (1) of this section, the Local Government, and before making rules under sub-section (2) of this section, the Governor General in Council, shall publish, in such manner as may in its or his opinion be sufficient for giving information to persons interested, a draft of the proposed rules, with a notice specifying a date (not less remote than two months from the publication of the notice) on or after which the draft will be taken into consideration, and shall consider any objection or suggestion which may be received from any person with respect to the draft before the date so specified.

37. This Act shall apply to factories belonging to the Crown:

Provided that, in case of any public emergency, the Governor General in Council or the Local Government may, by an order in writing, exempt any factory from this Act to such extent and during such period as the Governor General in Council or the Local Government, as the case may be, thinks fit.

38. Notwithstanding anything in clause (b) of the definition of the word "factory" in section 2 the Local Government may, from time to time, by notification in the official gazette, declare any premises, or premises of any class, which fulfil the other conditions of the said definition, to be a factory for all the purposes of this Act, or for such of those purposes as may be specified in the notification, if the number of persons simultaneously employed in the premises on any day in any manual labour in, or incidental to, any such process as is referred to in the said clause (b) is less than fifty and not less than twenty.

(2) The Local Government may, by such notification, fix any number below fifty and not below twenty as the number of persons whose simultaneous employment as aforesaid is to be held to subject premises, as a factory, to all or any of the provisions of this Act and of the orders and rules made thereunder.

Notes on sections.

Section 2.—For definition of “factory” see paragraph 79 of report, “child” paragraph 91, “actually employed” section 10 (2) of the present Act. A definition of “continuous running” is necessary for the purpose of section 7 of the draft.

Section 3.—For the appointment of a Chief Inspector, see paragraph 113 of report.

Section 4, clause (c).—This is taken from the English Act and seems necessary to protect an inspector in the execution of his duty. Clause (c) of the present section has been omitted because we propose to make the employment of any child or young person without a certificate an offence.

Section 6.—See section XVI of report. We think it important that the form of certificate should be the same throughout India and have therefore made the Governor-General in Council the prescribing authority. The form should, we think, be as follows :—

CERTIFICATE OF AGE UNDER INDIAN FACTORIES ACT.

No. of certificate _____ Date of certificate _____
Place _____

Name.	Father's name.	Caste.	Residence.	Two personal marks of identification.	Approximate age on date of certificate. (Years in words.)	Whether physically fit or not, if under 14 years.

Provisional certifier (if any).

Certifying Surgeon.

We think it important to have the form as simple and brief as possible: it should be in duplicate, one copy being given to the child or young person and the other to the factory in which he is employed. Thumb impressions are, in our opinion, unnecessary, as they can seldom be read by factory inspectors or managers; but the marks of identification should be carefully entered. Certificate forms should be printed by Government on very durable paper, and issued in books to certifying surgeons, or for sale to factory owners. No other forms should be used. It is important that the paper should be strong and durable, as a child's certificate has to last for several years.

Section 7.—For sub-section (1) see paragraph 86 of report. The exemptions we propose are in favour of factories, or parts of factories in which work cannot be stopped during the intervals of rest, e.g., the fires must be kept up in the boiler house and the engines must be oiled during the interval. In factories which dispose of their goods by retail, orders which arrive in the forenoon must be despatched by the afternoon, thus necessitating hand-packing during the interval. For sub-section (2) see paragraph 72 of report.

Section 8.—See paragraph 87 and 88 of report. The words “by the exigencies of the trade” have been added in clause (d) (iii) of sub-section 2 so as to include ginning factories (see the last sentence of paragraph 81 of the report). There is nothing in the nature of the work of ginning to prevent it being carried on at any time of year, but the trade requires that it shall be carried on as soon as the cotton is picked.

Section 9.—See paragraphs 63, 66, and 71 of report.

Section 10.—See paragraphs 58, 61, 66, 67, and 68 of report.

Section 11.—See paragraphs 64, 66, and 67 of report.

Sections 12 and 13.—These are practically sections 11 and 9 of the present Act. The forms of registers under section 13 will have to be very carefully drawn up after consulting all Local Governments, and we think that the same forms should be prescribed for factories all over India.

Section 14.—This is based on section 10 of the present Act: it seems advisable that the notice should be in the language of the majority of the operatives, *e.g.*, most of the operatives in factories in Burma are Madrasis who do not understand Burmese, and in jute mills at Calcutta the hands are mostly from the United Provinces. The obligation to notify information under each of clauses (a) to (e) will help towards the enforcement of the law, and the notice will be of great use to inspectors.

Section 15.—See paragraph 60 of report: the section is drafted on the lines of section 29 of the English Act.

Section 16.—This is section 158 of the English Act: it is necessary in order to provide facilities for gangs of mechanics, which often include apprentices and young boys, employed on special repairs in factories.

Sections 17, 21, and 22.—In the present Act there are no *substantive* provisions dealing with ventilation, over-crowding, etc., and doubt has been expressed whether rules made under section 18, sub-section (1), clauses (b), (c), and (d), would be held by the courts to be "consistent with the Act." To remove any doubt on this point, we have drafted sections 17, 21, and 22, while section 36, sub-section (1) (b), (c), and (d), provides for the making of rules dealing with these matters. Section 17 is based on section 1 of the English Act.

Section 18.—See paragraph 97 of report and section 74 of the English Act.

Section 19.—See paragraph 94 of report and section 94 (3) of the English Act.

Section 20.—See paragraph 96 of report and section 94 (1) of the English Act.

Section 21.—The scale of latrine accommodation which we propose for adoption all over India is given in paragraph 98 of our report. We think it better, however, to let the notification be issued by the Local Governments in case there may be need for a modification of the scale in special localities.

Section 23.—See paragraph 101 of report and section 16 (2) of the English Act.

Section 24.—See paragraph 100 of report and section 14 of the English Act.

Section 25.—The section dealing with fencing is in the amended form approved by the Government of India on 25th May 1905.

Section 26.—This is section 8 of the present Act, but we propose to extend the prohibition to women and female young persons because we consider they are exposed to considerable danger in employment of this kind on account of the clothes they wear; they are protected under the English Act, [sections 12 (3) and 13 (3)].

Section 27.—See paragraphs 102, 103, and 104 of report

Section 29.—This section has been re-drafted in order to make the occupier of a factory responsible, in the first instance, for all breaches of the Act committed in his factory. This liability is actually imposed by section 17 of the present Act, but there has been difficulty in some cases in the past in bringing home the responsibility, and we think it will be a much better arrangement to declare the occupier liable in every case, giving him at the same time an opportunity of discharging his liability by producing the actual offender. Advantage has in the past actually been taken of the wording of the present section ('any person who employs, etc.') to put forward low-paid subordinates to bear the brunt of prosecutions: one witness stated to us that one of the duties of the mill jobber in Bombay was to stand prosecutions.

Section 30.—As inspection will, we hope, be much stricter in future, we consider it necessary to guard against the wilful obstruction of an inspector in the execution of his duties: the inspectors in Bombay also have informed us that they consider a provision of this nature necessary. The section is based on section 119 (3) of the English Act.

Section 31.—The remarks on section 29 explain the necessity for this provision. The draft merely reproduces section 141 of the English Act.

Section 32.—See paragraphs 92 and 93 of the report.

Section 33.—We have altered section 16 of the present Act considerably. Under our proposals for the certification of children and young persons, the possession or non-possession of a certificate will, in most cases, be the only point to be inquired into. But there will still be some cases in which the question of age will arise; and we think that the statement on oath

of the certifying surgeon should exclude all other oral evidence on this point. Past experience has shown that there is no generally accepted test or standard for age, and in any prosecution the evidence of respectable medical men can always be got to contradict the opinion of the certifying surgeon. We consider that the certifying surgeons are, by experience, probably better qualified to give an opinion on age than other medical men, and also that in order to secure a proper enforcement of the Act, it is necessary that their opinion as to age should be accepted by the courts. It hardly seems necessary in these circumstances to retain in the section the provision as to the burden of proof.

Section 34.—We think that the occupier of a factory should, so long as he remains in British India, always be primarily responsible for breaches of the Act in his factory. The words “during the absence of such occupier from the factory,” in the amending Bill approved by the Government of India on 25th May 1905 are too vague. Only in the case of the occupier's absence from British India would we permit the responsibility to devolve on the manager; and we have drafted this section accordingly.

Section 35.—See paragraph 69 of report.

Section 36, 37, and 38.—These are sections 18, 19, and 20 of the present Act.

No. 6453—6473—6.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY.

COMMERCIAL EXHIBITIONS.

Simla, the 10th July 1908.

RESOLUTION.

The following papers relative to the Universal and International Exhibition to be held at Brussels in the year 1910, are published for general information, in continuation of Resolution No. 22-42-1, dated the 6th January 1908.

BRUSSELS UNIVERSAL AND INTERNATIONAL EXHIBITION, 1910.

UNDER THE HIGH PATRONAGE OF HIS MAJESTY THE KING OF THE BELGIANS
AND THE HONORARY PRESIDENCY OF H. R. H. PRINCE ALBERT OF BELGIUM
WITH THE SUPPORT OF THE PUBLIC AUTHORITIES.

Appeal to Producers.

Brussels, January 24, 1908.

A Universal and International Exhibition will open at Brussels in the month of April, 1910, and will last for about six months. Its Palaces and Halls will be erected in the new quarter of the Avenue Louise skirted by the grand old beech trees of the Bois de la Camber, the favourite resort of the Brussels people. What a delightful view indeed will the observer command from this picturesque site: he will witness in the distance the undulating country overlooked in the rear by the thick-set trees and green shrubbery of the Forest of Soignes.

From its position at the junction of the main lines of communication of Europe, and its being the Capital of one of the most densely populated and most industrial countries of the Globe, and having, for centuries past, been accumulating art treasures of all kinds, Brussels is so well known that any enlargement upon its reputation would be quite unnecessary.

Not only is the Belgian Capital the seat of a strong artistic, scientific, and commercial movement, but every possible effort is made towards improving the City and rendering it more and more attractive, while the people are always ready to welcome and extend hospitality to foreigners coming to visit Brussels.

No sooner had the scheme been announced than it secured the enlightened protection of the King and the support of Government; and the Brussels Exhibition is bound to be a great success.

The Belgian Government have acquainted the Foreign Cabinets with the organisation of this Exhibition, inviting them to take part and to be officially represented by appointing Commissioners or Committees.

Even now, important corporations are in course of formation, from all over Belgium considerable support is forthcoming and adhesions have practically been received from the large neighbouring Countries.

The Brussels Universal and International Exhibition includes, in broad lines, artistic, scientific, industrial, commercial and colonial sections. It will be open to works of art, industrial and agricultural products, and generally to all wares coming within the classification annexed to the General Regulations.

The Artistic section will consist of an International Saloon of Fine Arts.

The Scientific section will embrace with the various degrees of education the instruments and general methods connected with Letters, Sciences and Arts.

The industrial section will be made up of all the products, methods and materials, both industrial and agricultural.

Steps will be taken to render fully complete the special groups connected with fancy trades, mines, metallurgy, machinery, electricity, arms manufacturing and mechanical locomotion.

The programme further contains special Exhibitions, temporary Agricultural and Horticultural Shows; Congresses, Conferences, Artistic and Sportive Fêtes.

The Executive Committee also propose to organise during the Exhibition popular games and competitions.

Furthermore, like at other Exhibitions, national compartments will be formed wherein the works and productions of a same country will be divided into groups and classes according to a system of general classification.

The Exhibition will cover a total area of about two hundred acres, a large portion of which will be reserved to the Foreign Sections. The installations will be connected with the Belgian State Railway, so as to bring all exhibits up to the required spot, on rail tracks laid down in the Halls and ground.

The principal Palace and the Halls of the Exhibition will be built of iron and covered with hard materials: the roofed surface amounting to at least one hundred and fifty thousand square metres.

The Machinery Gallery will include numerous workshops in operation under the eyes of the Public.

A vast park, in which attractions will scatter in all directions, will surround the buildings.

Enclosed herewith will be found the full programme of the Exhibition comprising the General Regulations, and the detailed classification of the goods.

The attention of Exhibitors is specially directed to the fact that the rent for detached space includes handling charges (Article 25 of General Regulations). Exhibitors will thus be enabled to accurately estimate beforehand the charges incumbent upon them.

According to the clauses inserted in Articles 18 and 27 of the General Regulations, *special arrangements may be concluded for the hire of large spaces as well as for the handling work and storage of empties, but solely with such Countries as are officially represented.*

In that case, the charges would be fixed separately, *viz.* :

- (1) For hire of space in the Halls, exclusive of expense of decoration;
- (2) For handling;
- (3) For storage of empties.

Any such agreements to be entered into with officially represented Countries will be drawn up by the Commissioner-General of the Belgian Government.

The Government will grant on the State Railways free transport to and fro, of Belgian products consigned to the Exhibition, and free return in the case of foreign exhibits.

The Exhibition will be treated as an actual bonded warehouse, foreign goods intended for the Exhibition being allowed provisional duty-free importation subject to being afterwards re-exported.

The necessary measures will be taken by the Government for protecting in Belgium patentable inventions, industrial designs or models, and manufacturing or trade marks appearing at the Exhibition.

Moreover, the Belgian Government have sanctioned the organisation of a Lottery comprising several series of a million tickets each. The prizes will be purchased from the Exhibitors, or (as regards series of tickets issued prior to the opening) from such persons as shall have given a written undertaking to exhibit.

An International Jury of Awards will be instituted, to operate under the control of the Commissioner-General of the Belgian Government. The Members of the Jury will be designated by the Government of their respective countries.

The General Regulations specify the nature of the awards to be attributed to the Exhibitors; same consist of diplomas or medals.

In conclusion, the Executive Committee propose to give all kinds of fêtes, to multiply the attractions with the view of enhancing the splendour of the Exhibition and increasing the number of visitors.

The Board of Directors of the "Société Anonyme de l'Exposition de Bruxelles" is placed under the Presidency of Baron Baeyens, Governor of the Bank "Société Générale de Belgique." An Executive Committee with Mr. Emile De Mot, Senator, Burgomaster of the City of Brussels, as President, has been invested with all the powers of the Board.

The Executive Committee will determine the various measures coming within the scope of organisation and management, and are exclusively qualified to deal with all questions of receipts and expenditure.

Although an undertaking solely due to private initiative, the Brussels Exhibition has ensured the effective co-operation of the Belgian Government, and also the support of the City of Brussels and Province of Brabant. It is placed under the High Patronage of H. M. the King of the Belgians and under the Honorary Presidency of H. R. H. Prince Albert of Belgium.

The Duke d'Ursel has been invested with the functions of Government Commissioner-General to the Brussels Exhibition, and M. J. Gody has been appointed Deputy Commissioner-General.

The Exhibition is not organised with the view of profit; its promoters are anxious to make our country appreciated abroad, by displaying anew her productive power and industrial progress.

The Executive Committee therefore warmly appeal to all, convinced, as they are, that the character and object of the Exhibition will secure numerous and important adhesions.

THE EXECUTIVE COMMITTEE:

Vice-Presidents:

Georges DUPRET,

Senator.

President:

Emile DE MOT,

Senator,

Burgomaster of the City of Brussels.

Maurice LEMONNIER,

Member of the Chamber of Representatives,

Alderman of the City of Brussels.

*Members :***Emile DE LAUNOY,**

Senator,

President of the Brussels Chamber of Commerce.

Victor DE LOGHT,

Advocate, City Councillor.

Gustave FRANCOTTE,

Late Minister,

Member of the Chamber of Representatives.

Leon JANSSEN,

General Manager of the Brussels Tramways Company.

Omer LEPREUX,

Director of the National Bank of Belgium.

Edmond NERINCX,

Vice-President of the Chamber of Representatives.

Fernand VANDERSTRAETEN-SOLVAY,

Manufacturer.

*Secretary :***Francis WIENER,**

Advocate to the Court of Appeal.

*General Managers :***Eug. KEYM,**

Alderman at Watermael-Boitsfort.

Count Adrien van der BURGH,

Commissioner-General of the Belgian

Government at the Milan Exhibition, 1906.

*Assistant Secretary :***Raoul VAN DEN BUIGKE,***Approved :***J. GODY,**Deputy Commissioner-General
of the Government.**Duke d'URSEL.**

Commissioner-General of the Government.

General Dispositions and Organic Rules.**CHAPTER I.****GENERAL PROVISIONS.***Object.*

ART. 1.—The Exhibition will include chiefly art works (Painting, Sculpture, Engraving and Architecture), scientific works and the Industrial and Agricultural plant and productions of all nations.

It will further include military art and Colonial Exhibitions. The Executive Committee contemplate the creation of an exhibition of modern Decorative Art.

Machinery of every description will, as far as practicable, operate under the eyes of the public for the purpose of showing visitors the mode of working same and initiating them into the different lines of manufacture.

Special temporary shows and exhibits of agricultural machines in operation, live stock, plants, flowers, fruits, vegetables, etc., are contemplated and those will be regulated by independent rules.

Location and Surface.

ART. 2.—The Exhibition will be installed in the new quarter of the Avenue Louise adjoining the Bois de la Cambre.

The Exhibition will cover more than 200 acres of ground and will be connected with the Belgian State Railway.

The Principal Palace as well as the Exhibition Halls will be built of iron and covered with hard materials, the surface occupied by the various buildings approximately reaching 150,000 square metres, made up of Halls for Industrial and Commercial products, Machinery Gallery, Railway Material and Electricity Departments, with annexes, etc.

A vast park surrounding the buildings will contain numerous attractions.

The Executive Committee have received numerous offers for the instalment of important attractions, such as the reconstituting a quarter of Old Brussels, together with its monuments, decorated and furnished houses whose occupiers will be clad in the costumes of the times, the establishment of a universal museum of fetichism, etc., etc.

Duration.

ART. 3.—The Exhibition will be inaugurated end of April 1910, and remain open for a period of at least 6 months, with the option for the Executive Committee to prolong it until the 15th November inclusive.

Board of Directors and Executive Committee.

ART. 4.—The Board of Directors (*) of the "Société Anonyme de l'Exposition de Bruxelles" under the Presidency of Baron Baeyens, Governor of the "Société Générale" Bank, have delegated their powers to an Executive Committee with Mr. Emile De Mot, Senator, Burgomaster of the City of Brussels, as President. This latter Committee will act as representative of the Company and deal with the various matters of Administration and Finance; it forms the executive and ruling authority in respect to the organisation and conduct of the Exhibition.

The Executive Committee have appointed two General Managers for the purpose of carrying out their resolutions.

Superior Commission of Patronage of Belgian Section.

ART. 5.—A Superior Commission of Patronage will be instituted and the duties of the Commission consist in promoting and facilitating the participation of Belgian producers.

It will be composed of Committees of groups and classes and also local Committees, such Commission and Committees to be governed by special regulations determining the duties assigned to them and mode of discharging same.

Government Commissioner-General's Department.

ART. 6.—The Department of the Commissioner-General of the Government is conducted by the Duke d'Ursel, Commissioner-General, with the co-operation

(*) The Board of Directors is composed of Messrs. Baron Ferdinand Baeyens, president; Emile De Lannoy, Emile De Mot, Gustave Francotte, Victor Fris, Baron Leon Lambert, Edmond Nerinx, vice presidents; Jacques Cassel, Eugene Cavenaille, Victor De Locht, Georges Dupret, Baron Edouard Empain, Léon Janssen, Maurice Lemonnier, Omer Lepreux, Fernand van der Straeten-Solvay, François Vaxelaire-Claes, members; Francis Wiener, secretary, and Raoul Van den Euleke, assistant secretary.

of M. J. Gody, Deputy Commissioner-General, General Manager of the Belgian Section, assisted by special Commissioners.

The Commissioner-General of the Government is the Government Representative with the Executive Committee of the Exhibition Company and with the Representatives or Delegates of Foreign Countries taking part in the Exhibition.

He acts as the Official medium both between said representatives or delegates of Foreign countries and the Exhibition Company, and between the former and the Belgian Government in connection in all matters requiring consideration on behalf of their Exhibitors.

All enquiries generally are to be addressed to the Commissioner-General.

Concurrently with the Executive Committee of the Exhibition Company, the Government Commissioner-General will settle the whole plan of the Halls and laying out of the grounds, the general scheme for allotment of space in the Belgian and Foreign Sections and also the programme of right of way and party walls in these sections.

He will act between foreign Commissioners and the Executive Committee of the Exhibition Company in regard to the preparation of agreements for hire of space, cartage and handling of exhibits, storage of empties, etc., etc., but no personal responsibility will attach on that account.

He is to approve and adopt regulations, more particularly those connected with the cartage and handling service, the entries, maintenance of order, setting up and operation of machinery and mechanical or electrical appliances and installations.

The Government Commissioner-General, jointly with Mr. Gody, General Manager of the Belgian Section, will organise and control the participation of Belgian producers.

Special regulations will determine the functions and duties to be exercised by the Government Commissioner-General's Department and fix its relations with the Commission of the Belgian Section.

Belgian and Foreign Commissioners and Delegates.

ART. 7.—The Belgian Ministries and Public Administrations will accredit Delegates for the purpose of organising their special exhibitions, such Delegates to be placed under the authority of the Government Commissioner-General.

Foreign Governments have been advised of the organisation of the Brussels Universal and International Exhibition, in which they will be invited to take part and to be officially represented by accredited Commissioners; these Commissioners, representing their respective nationalities and having the charge of their interests, will arrange with the Executive Committee of the Exhibition Company through the Government Commissioner-General all questions relating to the distribution of space reserved to their respective country and installation of each national section. Collective Exhibitors belonging to Countries which are not officially represented can be admitted with the joint consent of the Executive Committee and Government Commissioner-General and may designate Commissioners subject to like approval. Exhibitors are not allowed to correspond with the Executive Committee except through the Representative or Delegate of their Country, but an Exhibitor whose country should not be represented by a Commissioner may correspond direct with the Executive Committee. This latter Committee will furnish all necessary information and circulate the Regulations required to be complied with by the Representatives or Delegates of the different nations and their Exhibitors.

Exchange of Space.

ART. 8.—No interchange of allotted space can take place between one country and another, unless with the sanction of the Executive Committee obtained through the Commissioner-General of the Belgian Government.

Classification of Goods.

ART. 9.—All products shall be divided into groups and classes as per list of general classification hereunto annexed. This document gives a summary enumeration of the products of each class; but is not restrictive. In case of doubt as to the classification of any article, the matter will be decided jointly between the Executive Committee and the Government Commissioner-General. Any small alterations which it may subsequently be necessary to make in the division of exhibits between the different classes shall be sanctioned by the Commissioner-General of the Government. This classification will form the basis of the arrangement of the products in each department allotted to the Exhibitors of a same nation, and on the International departments covering the Machine and Railway plant galleries.

General and Special Catalogues.

ART. 10.—The Executive Committee will compile an official and complete catalogue, methodically arranged, and containing the name and address of each Exhibitor with particulars as to trade and place of production (whether a factory, farm, etc.) the necessary information for which will be supplied by the Exhibitors under their sole responsibility, and according to the special form* which will be

* Not printed.

found herewith.

Commissioners of represented Foreign Countries will be at liberty to issue, at their own expense, a special catalogue of their exhibits and to sell the same within their respective limits.

Protection of Inventions.

ART. 11.—The necessary measures will be taken by the Government for protecting in Belgium patentable inventions, industrial designs and models, as well as manufacturing or trade marks appearing at the Exhibition. It will be strictly forbidden to take copies, drawings, measurements, photos, cards or models of any objects exhibited unless with the Exhibitor's consent; the closest watch will be kept to enforce this rule. Nevertheless neither the Board of Directors nor the Executive Committee will incur any responsibility on account of infractions of this provision, dereliction of duty on the part of the guardians or violation of their orders.

The Executive Committee reserve to themselves the right of allowing general views to be taken and sold without the Exhibitor's consent being required.

Posters, Hand-bills, Show-cases, Signboards.

ART. 12.—All advertisements and notices, official or other printed matter intended to be posted or distributed within the Exhibition must first be submitted to the approval of the Executive Committee who will be entitled to withdraw their authority at any time.

Exhibitors will be required to submit to the Executive Committee for approval, plans of any show-cases, furniture or other fixtures intended to be used by them, and as regards machinery, apparatus and plant connected with industry, noted plans showing height of proposed installation, including foundation and underground work, with statement of the total weight of the installation.

The Executive Committee, concurrently with the Commissioner-General of the Government, will regulate all matters affecting dimensions and placing of signboards.

Compliance with the Laws and Regulations.

ART. 13.—Exhibits of every description are to comply with the various requirements of the Laws and Regulations in force for the time being in Belgium. Exhibitors will be required to fulfil all the formalities prescribed by said Laws and Regulations, unless waived at the time by the competent Authorities.

The Belgian Government will grant administrative facilities for operating steam engines necessary for the purposes of the Exhibition.

Space Rent.

ART. 14.—All matters respecting the rent to be paid by Exhibitors for the space allotted to them will be found in Chapter II hereof.

Floorings and Partitions.

ART. 15.—The flooring of the Halls is calculated to bear per square metre a weight of 500 kilogs and in some parts to be mutually agreed upon, up to 1,500 kilogs. Whenever alteration to the floors may be wanted for heavy or special exhibits, the consent of the Executive Committee will be required, and the work performed at Exhibitor's expense.

In their application for space, Exhibitors shall state the weight of their installation to the square metre.

Any partitions required over and above those leased by the Executive Committee shall, after being approved by the latter, be provided at Exhibitor's expense.

Decoration of Halls.

ART. 16.—The decoration will have to be borne by the Exhibitors, individually or collectively, subject to being first approved by the Executive Committee and the Commissioner General of the Government.

Carriage of Exhibits.

ART. 17.—The Exhibition Company has secured from the Belgian Government:

- (a) Free carriage to and fro, on the State Railway lines, of Belgian products consigned to the Exhibition.

This exemption from freight extends to raw materials for manufacturing purposes or for producing motive power at the Exhibition, and likewise to empties and packages having contained the goods and required for their return.

- (b) The application of freight rates as per Tariff No. 10, in the case of foreign goods travelling on the State Railway lines. (This tariff provides for the free carriage on return from, and for the payment of the full rates on consignment to the Exhibition.)

Negotiations will be opened with the view of obtaining reductions on Belgian Companies' lines, on Foreign lines and on the regular lines of steamers.

- (c) The opening of a Post-Telegraph and Telephone Office within the Exhibition.

Handling of Goods.

ART. 18.—The Exhibition Company undertake on behalf of persons exhibiting in detached spaces, the handling of goods within the Exhibition, free of charge, in respect of all packages of usual sizes and not exceeding 1,500 kilogs in weight, provided same are delivered on or before the 10th April, 1910. This includes:

- (a) Taking delivery of the packages within the Exhibition premises;
- (b) Unloading on the spot allotted;
- (c) Removing empties and packages from, and bringing back to the spot allotted;
- (d) Removing the goods when repacked.

Exhibitors shall comply with the instructions given to them by the Executive Committee with the view of facilitating the removal of empties.

The Executive Committee will cause to be stored and, at the close of the Exhibition, brought back for repacking, empties belonging to foreign

Exhibitors, but will not be responsible for the condition thereof when so returned.

Rent for storing empties will be charged at the rate of frs. 2-50 per square metre of surface measured according to the greatest dimensions above the floor, with a minimum charge of frs. 2 50 for any empty not reaching a square metre.

Foreign Exhibitors wishing to take charge of their own empties will have to remove them immediately after unpacking, and comply with the instructions of the Executive Committee.

Special terms must be arranged with the Executive Committee for the handling of packages exceeding 1,500 kilogs, also for any single package exceeding that weight such as blocks of stone or marble, iron wares, parts of machinery, cannons, fitted engines and threshers, etc. Also when the dimensions exceed the surface of ordinary Railway trucks such as timber, iron bars, beams, rolling stock (locomotives, railway and tramway carriages, cars, etc.) and craft. Further, in the case of any bulky packages of articles of a breakable nature, in certain instances, Exhibitors may be required to join in, or to solely take charge of the handling of the goods.

The Executive Committee reserve to themselves the right to make arrangements, if possible, so that any travelling cranes intended for exhibition in the machinery gallery be set in working order sufficiently beforehand to be used for shifting and erecting work incumbent upon the Exhibitors, subject to payment of a fee.

With all Countries officially represented, the Executive Committee are prepared to arrange special terms for the handling of goods and storage of empties.

No contractor letting out show-cases, mirrors, furniture, posters and sign-boards, or no out-door salesmen will be entitled to the warehousing or return of empties, the Executive Committee not undertaking to interfere therein in any way.

The unpacking, laying out and repacking of goods and the repairing of empties, will be at Exhibitor's own cost. The repacking will be proceeded with according to the Executive Committee's instructions and must be completed before 31st December 1910, and all fixtures removed before 15th January 1911, after which date all remaining goods will be removed and stored at Exhibitor's cost and risk.

All goods unremoved by the 1st February 1911 will be sold by public auction 6 months afterwards, and the Exhibition Company will be entitled to proceeds of the sale.

Each Exhibitor or his delegate is to attend the reception of his goods, on arrival, and control the identity of same. Failing the Exhibitors or their agents being on the Exhibition premises to receive their packages, it will be optional with the Executive Committee to return the goods or unpack them at the expense and risk of the owner.

All materials intended for fixtures must, before introduction, be submitted to the Executive Committee for approval.

The Exhibition Company undertake that all goods will be handled with the greatest care, but it is expressly stipulated that in no case can the Company be held responsible for any loss, shortage, damage, etc., to packages or their contents.

Installation, Maintenance and Removal of Exhibits.

ART. 19.—The Foreign Public Administrations and Commissions will carry out their own installations in the special pavilions erected by them in the grounds or parts of Halls specially allotted them, subject to submitting their general plans to the approval of the Executive Committee who will agree to same jointly with the Government Commissioner-General.

ART. 20.—Exhibitors, whether singly or collectively, will have to bear the entire expense of their installations, such as special decorations, superstructure and consolidation of floors, partition framework and coating, ceilings, drapery, enclosures, supply of furniture, arrangement, ornamentation, laying out, preservation and cleaning of goods, foundations, fixing up, motive power, steam, water, gas, electricity, taking down, storage of empties, insurance, plantings and special levellings; reinstating the premises; customs or excise duties; license dues on excisable commodities, etc., etc., all measures in this connection to be approved by the Executive Committee and the Commissioner-General of the Government. Exhibitors will be held responsible for any damages caused by their installations to floorings, partitions, etc., in their use, and for such dilapidations as might be considered due to misuse.

No Exhibitor shall be allowed to set up his installation in such a way as to deprive another Exhibitor from light, or to cause him any inconvenience or prejudice whatsoever.

Save under a special authority, Exhibitors, whether singly or collectively, will not be allowed to cover up their exhibits during the hours fixed for public admission to the Halls and Pavilions.

No exhibits may be removed before the close of the Exhibition, except with the Executive Committee's special consent in writing.

Exhibitors are not allowed to remove their exhibits, products or fixtures, until after paying the charges for space, selling dues, damages (if any), etc.

CHAPTER II.

SPECIAL PROVISIONS.

Articles excluded.

ART. 21.—The Exhibition is not available to explosive, detonating and fulminant materials, nor generally any dangerous or injurious articles including medicines—patent or not—secret remedies and empiric preparations of unknown ingredients.

Alcohol, spirits, oils, essences, corrosive liquids and all matters likely to endanger other exhibits or inconvenience the public will only be admitted if contained in suitable strong vessels of small size.

Percussion caps, gun-primers, fireworks, matches and other like articles will be admitted in imitation form only, *i. e.*, without any adjunction of inflammable matter.

Articles likely to prove a nuisance, or of an unwholesome nature will be subject to such precautionary measures as may be prescribed.

The Executive Committee will also have absolute right to order the removal of products, the nature or appearance whereof might be dangerous, unsuitable or incompatible with the aim and conveniences of the Exhibition.

Applications for Admission.

ART. 22.—Applications for admission must be made on the accompanying forms,* supplied by the Executive Committee, and these after being duly filled up

* Not printed.

and signed in duplicate, are to be forwarded in a prepaid envelope, not later than the 15th January 1909 as to machinery, apparatus and plant connected with industry, and before the 1st May 1909 as to other goods:

- (a) To the Government Commissioner-General, as regards exhibits of Belgian origin;
- (b) To the Commissioners of Countries officially represented at the Exhibition, as regards exhibits originating from those Countries;
- (c) To the Executive Committee of the Exhibition, 34, Rue des XII Apôtres, Brussels, as regards exhibits originating from Countries not officially represented.

Applicants referred to in (c) shall not send their goods until their application has been considered by the Executive Committee and a certificate of admission duly issued.

ART. 23.—The allotted space will be measured according to the greatest length and width above the floor or ground.

All surfaces are to be established to the great square.

No allotted space can be assigned, exchanged or sub-let except with the express consent of the Executive Committee.

Exhibitors whether singly or collectively shall provide at their own expense, subject to the approbation of the Executive Committee, the ceilings, drapings, stuffs, linen or jute material, partition framework and coating, superstructure of floorings, foundations or consolidation of floors for heavy installations, all schemes connected with such installations, to be approved by the Executive Committee and the Government Commissioner-General.

CHARGES FOR SPACE.

ART. 24.—The spaces in the Belgian Section or in officially represented Sections will be granted for such rent and on such terms and conditions as the Commissioner-General of each section shall determine.

ART. 25.—The charge for space in the different compartments—except in the official sections and the Sections recognised by the Executive Committee jointly with the approval of the Commissioner-General—including the general decoration of the halls and handling of the goods, has been established according to position as follows :—

I.—HALLS OF INDUSTRY AND TRADE.

A.—SIDE GALLERIES.

1. Collective Space.

Ground space {	A) Depth not exceeding 1 metre, Per lineal metre frontage ...	... fr. 60
	B) Depth exceeding 1 metre, Per square metre ground surface ...	... „ 60
Wall space :	C) Per lineal metre frontage ...	... „ 60
The charge for collective space allotted will in no case be less than „ 60		

2. Detached Space.

A) Measured at the greatest dimension, the smallest being below 1 metre, Per lineal metre frontage ...	... fr. 90
B) Both dimensions exceeding 1 metre, Per square metre ground surface ...	... „ 90
The charge for detached space allotted will in no case be less than „ 90	

B.—CENTRAL GALLERIES.

1. The charge will be ... {	Collective space, Per square metre ...	... fr. 90
	Detached space, Per square metre ...	... „ 130
2. Charge for rooms having at least 5 metres frontage and 5 metres depth ... {	Single frontage, Per square metre ...	... „ 70
	Corner frontage, Per square metre ...	... „ 90

II.—HALLS OF MACHINERY, ELECTRICITY, RAILWAY PLANT AND BOILER SHED.

FOR MACHINES AND VARIOUS INSTALLATIONS.

A.—SIDE GALLERIES.

1. Collective Space.

Ground space	{	A) The depth not exceeding 1 metre, Per lineal metre frontage ...	... fr. 60
		B) The depth exceeding 1 metre, Per square metre ground surface ...	... „ 60
Wall space:		C) Per lineal metre frontage ...	... „ 60
The charge for collective space allotted will in no case be less than			„ 60

2. Detached Space.

A) Measured at the greatest dimension, the smallest being below 1 metre, <i>Per lineal metre frontage</i>	...	...	"	90
B) Both dimensions exceeding 1 metre, <i>Per square metre ground surface</i>	...	...	"	90
The charge for detached space allotted will in no case be less than				" 90

B.—CENTRAL GALLERIES.

The charges have been fixed as follows...	{	Collective space, Per square metre ...	fr. 90
		Detached space, Per square metre ...	130

For any machine in operation, the duly proved expense of purchasing steam, water under pressure, gas, electricity and mechanical motive power will be refunded to the Exhibitor up to 50 per cent. of the amount paid for the space occupied by said machine, provided the expenses in question have been effected during the hours when the Halls are available to the public and the machine has been in operation at least four days per week and four hours per day.

III.—GARDENS, SHEDS AND TENTS.

For space allotted to Exhibitors in the Gardens :

A) The depth not exceeding 1 metre, Per lineal metre frontage	...	fr.	25
B) The depth exceeding 1 metre, Per square metre ground surface	...	...	25

For space allotted under sheds or tents, if any, the above charges will be increased by 5 fr. per lineal metre, or square metre, as the case may be.

PAYMENTS.

ART. 26.—Rent for space will be collected by the Executive Committee of the Exhibition Company.

When exceeding 1,000 frs., same is payable in two equal instalments, the first on receipt of the admission certificate, the second on the 1st April 1910.

Rent under or equal to 1,000 frs., is payable at once on receipt of the admission certificate.

Any Exhibitor failing to pay the rent within the prescribed time will forfeit his rights and the admission certificate issued to him will be deemed cancelled.

Large Spaces.

ART. 27.—Special terms may be arranged in respect of large spaces hired in the Halls or Gardens.

In every Section, the space reserved for public Circulation must be kept free by the several countries, and no encroachment thereon will be tolerated.

In regard to spaces let out in blocks, the public circulation ways will be reckoned in the measurement of the surfaces leased, but one-half only of such ways will be counted in the case of frontage allotments.

Date of completion of Exhibits.

ART. 28.—Exhibits must be completed and all the work connected therewith terminated before the 15th April, 1910.

Machinery and appliances which can only be fixed or mounted by passing over the space of other Exhibitors shall be completely set up by the 15th October 1909, or even earlier, should the Executive Committee deem necessary.

All machinery foundation work must be terminated on or before the 1st October 1909.

Should the Exhibitor fail to comply with above dates, he will *ipso facto* lose all claim to his space, the admission certificate will be deemed cancelled and the space rent paid will be forfeited to the Exhibition Company, without any legal or other proceedings being required. In such case, the Executive Committee will be entitled to remove unfinished installations or to have the same completed at Exhibitor's expense and risk.

Special Charges.

ART. 29.—Exhibitors requiring steam, water, gas, electricity, shall state in their application for admission the hourly quantity so required.

When motive power is required, the intended rate of speed and requisite power should be stated.

The adoption of electric motors, as also the foundations and expenses of private installation are for Exhibitor's account. Steam, water, gas, electricity and any mechanical motive power will be supplied according to the tariff providing for same.

Separate by-laws will determine the conditions affecting the erection and working of mechanical and electrical machinery, apparatus and appliances, and will be forwarded to Exhibitors on application.

Exhibitors' co-operation towards the services of the Exhibition.

ART. 30.—Exhibitors wishing to place all or part of the work performed by their machinery, apparatus and appliances, at the disposal of the Exhibition with the view of co-operating, on terms to be agreed upon, towards the production, distribution and utilisation of steam, water, gas, and motive power, or towards the lighting and handling services, shall submit their propositions to the Executive Committee prior to the 15th January, 1909.

International Jury of Awards.

ART 31.—An International Jury of Awards will be formed, the Members of which will be appointed by their respective Governments; this Jury will be organised and controlled by the Commissioner-General of the Belgian Government. Jurors of non-officially represented Countries shall be proposed by the Delegates of the Exhibitors of those nations and, if necessary, their appointment will have to be sanctioned by the Belgian Government, on the recommendation of the Commissioner-General of the Government.

The Jury will officiate as soon after the opening of the Exhibition as possible.

The Awards will consist of Grand Prize Diplomas; Diplomas of Honour; Diplomas of Gold, Silver and Bronze Medals, and Diplomas of Honourable Mention. These Diplomas may be accompanied by a Medal. The Awards will be delivered before the close of the Exhibition, in a grand fête held specially for the occasion; and a full list of Awards will receive the greatest publicity.

International Test Committees.

ART. 32.—International Committees may be formed for tests or trials similar to those of former Exhibitions.

Lottery.

ART. 33.—A lottery will be organised under the authority and control of the Government; the prizes will be purchased from Exhibitors or as regards series of tickets issued prior to the opening from such persons as shall have given a written undertaking to exhibit.

CHAPTER III.

ADMINISTRATION AND POLICE.

Exhibition of Products under names of Applicants.

ART. 34.—Products must be exhibited under the names of those persons who signed the applications for space; this rule will be strictly enforced.

Exhibitors who intend showing industrial art productions of which they are not the originators, must inform the Executive Committee and furnish due authorisation from the rightful proprietors.

ART. 35.—Exhibitors are free to add to their name, or style or firm the names of other persons having contributed to the merit and value of the articles exhibited.

Price of Exhibits.

ART. 36.—Exhibitors are invited to indicate the **Market Price** of the articles shown, as a guide to the Jury, as well as for the information of the public and of the Lottery Purchase Commission.

PROTECTION OF EXHIBITS.

Insurance.—General and Special Supervision.

ART. 37.—Due precautions will be taken to protect all exhibits and packages from damage, and a general watch will be established to prevent the fixtures and exhibits being stolen, strayed or damaged.

The Government nor the Exhibition Company shall in no case be held responsible for injury or damage, whatever be the extent, suffered by Exhibitors in consequence of theft, fire, thunder and other storms, or floods, gas, explosions, flaw in construction or arising from any other cause whatsoever, nor shall Exhibitors have any claim on account of these risks, either against the Government, or against the Exhibition Company.

Exhibitors desirous of insuring their goods, packages, etc., must do so through their own Agents and at their own cost.

Exhibitors will be answerable to the Exhibition Company and to other Exhibitors and parties, for all damage caused by their exhibits or by persons in their employ.

The Commissioners of participating countries as well as Exhibitors, whether singly or collectively, will be free to appoint under their own responsibility private inspectors and superintendents from a list approved by the Executive Committee; these officers will have to submit to the regulation framed by the Executive Committee.

Right to sell.

ART. 38.—Articles of every day sale, also those manufactured or made up on the spot may be sold and delivered to visitors, on payment of a percentage, to be fixed by agreement, and compliance with special by-laws; but no such sales may take place in the Halls without a special authority in writing from the Executive Committee.

No article of food or drink can be served within the Halls except by authority of the Executive Committee.

A special agreement with the Executive Committee will regulate the sale of refreshments or eatables in the Gardens and grounds of the Exhibition and determine the tax to be paid.

Entries.

ART. 39.—One single free ticket will be issued to each Exhibitor or his Agent approved of by the Executive Committee, if the nature and importance of the exhibits require the continuous attendance of such Agent. This ticket shall not be transferable and shall be withdrawn if proved to have been made over or lent, without prejudice of further action. It must be signed by the Exhibitor or his Agent, shew the photograph of bearer, and mention the group and class to which he belongs. It will, moreover, bear the stamp of the Executive Committee.

Any person acting as Agent to several Exhibitors will be entitled to one free ticket only. Each Exhibitor will be entitled to one or more tickets for persons in his employ, but giving admission from 8 to 10 A. M. only.

Exhibitors of machinery in operation shall be entitled to one or more cards available for their men whilst the machinery is working.

The number of tickets to be issued will be solely determined by the Commissioner-General of the Government and the Executive Committee, they will be withdrawn in case of misuse or fraud.

The entries will be regulated by special rules.

Exhibition to be treated as an actual Bonded Warehouse.

ART. 40.—The Exhibition will be treated as an actual bonded warehouse, foreign goods intended to appear at the Exhibition being allowed provisional duty-free importation subject to being afterwards re-exported and complying with such formalities as the Belgian Government may impose.

Subsequent Rules.

ART. 41.—Rules will be issued later on, for regulating the despatch, reception, handling, installation and return of goods; and also for providing for the organisation of supervision, customs, entries to the Exhibition, right of sale, formation and proceedings of the International Jury of Awards.

Special by-laws will provide for the establishment and working of mechanical and electric machinery, apparatus and appliances.

ART. 42.—Exhibitors or Contractors intending to erect constructions or stalls in the Gardens of the Exhibition must conform to the conditions which will be framed by the Executive Committee.

Separate and independent rules will regulate the licensing of special paying shows and eating or drinking establishments or places of performance, restaurants, bars, luncheon rooms, tobacco shops, etc., etc.

ART. 43.—Producers and manufacturers will by the mere fact of accepting the quality of Exhibitors, submit to the General or Special regulations and to such other measures of order and police as may be enacted in the future. Exhibitors or Contractors will be required to elect domicile at Brussels.

CHAPTER IV.

ANNEXED SHOWS.—CONGRESSES AND CONFERENCES,

Special Shows—Congresses and Conferences.

ART. 44.—Additional and temporary Shows, Congresses and Conferences, Lectures, Grand Fêtes, Choral and Musical Competitions, Concerts, etc., etc., will be organised during the Exhibition.

ART. 45.—The Executive Committee propose to promote International Congresses, and in a general way, will consider and, if thought fit, patronize all such schemes as are of a realisation likely to further enhance the attraction and éclat of the Exhibition.

Address for Communications.

ART. 46.—All communications connected with the Exhibition are to be addressed by prepaid letter, to **The President of the Executive Committee, 34, Rue des XII Apôtres, Brussels.**

Resolved in Executive Committee Meeting held on the 24th January 1908.

CLASSIFICATION ACCORDING TO GROUPS.

GROUP I.—EDUCATION.

- Class 1.*—Education of children. Primary education. Education of adults.
- Class 2.*—Secondary education.
- Class 3.*—Higher education. Scientific institutions.
- Class 4.*—Special artistic education.
- Class 5.*—Special agricultural education.
- Class 6.*—Special industrial and commercial education.

GROUP II.—WORKS OF ARTS.

- Class 7.*—Paintings. Cartoons. Drawings.
- Class 8.*—Engraving and lithography.
- Class 9.*—Metal and fine stone carving and engraving.
- Class 10.*—Architecture.

GROUP III.—INSTRUMENTS AND GENERAL METHODS CONNECTED WITH LETTERS, SCIENCES AND ARTS.

- Class 11.*—Printing. Sundry impressions.
- Class 12.*—Book-trade. Musical editions. Book-binding (plant and products). Newspapers. Posters.
- Class 13.*—Photography.
- Class 14.*—Geographical and cosmographical maps and appliances. Topography.
- Class 15.*—Instruments of precision. Coins and medals.
- Class 16.*—Medicine and surgery.
- Class 17.*—Musical instruments.
- Class 18.*—Theatrical art plant.

GROUP IV.—PLANT AND GENERAL METHODS CONNECTED WITH MACHINERY.

- Class 19.*—Steam engines.
- Class 20.*—Various other motors.
- Class 21.*—Various apparatus of general mechanics.
- Class 22.*—Machine-tools.

GROUP V.—ELECTRICITY.

- Class 23.*—Mechanical production and utilisation of electricity.
- Class 24.*—Electrochemistry.
- Class 25.*—Electric lighting.
- Class 26.*—Telegraphy and Telephony.
- Class 27.*—Various applications of electricity.

GROUP VI.—CIVIL ENGINEERING.—MEANS OF TRANSPORT.

- Class 28.*—Civil engineering materials. Equipment and methods.
- Class 29.*—Models, plans and drawings of public works.
- Class 30.*—Coachbuilders' and cartwrights' trades.—Saddle and Harness makers' trades.
- Class 31.*—Motor-cars and cycles.
- Class 32.*—Railway and Tramway plant.
- Class 33.*—Commercial Navigation equipment.
- Class 34.*—Aërial Navigation.

GROUP VII.—AGRICULTURE.

- Class 35.*—Rural husbandry plant and methods.
- Class 36.*—Viticultural implements and methods.
- Class 37.*—Agricultural implements and methods.
- Class 38.*—Agronomy.—Agricultural statistics.
- Class 39.*—Agricultural products of vegetable origin used as foodstuffs.
- Class 40.*—Agricultural products of animal origin used as foodstuffs.
- Class 41.*—Non-edible agricultural produce.
- Class 42.*—Useful insects and their products.—Noxious insects and vegetable parasites.

GROUP VIII.—HORTICULTURE AND ARBORICULTURE.

- Class 43.*—Horticultural and Arboricultural implements and methods.
- Class 44.*—Pot herbs.
- Class 45.*—Fruit-trees and fruits.
- Class 46.*—Ornamental trees, shrubs, plants and flowers.
- Class 47.*—Hot-house plants.
- Class 48.*—Horticultural and Nursery seeds and stock.

GROUP IX.—FORESTRY.—HUNTING AND SHOOTING.—FISHERIES.—
FRUIT GATHERING.

- Class 49.*—Plant and methods for forest exploitation and industry.
- Class 50.*—Forest produce.
- Class 51.*—Hunting and shooting requisites.
- Class 52.*—Hunting and shooting produce.
- Class 53.*—Fishing tackle, implements and produce.—Water culture.
- Class 54.*—Fruit-gathering tackle, implements and produce.

GROUP X.—FOODSTUFFS.

- Class 55.*—Food industry implements and methods.
Class 56.—Farinaceous goods and by-products.
Class 57.—Bakers' and Pastrycooks' goods.
Class 58.—Preserved meat, fish, vegetables and fruits.
Class 59.—Sugar and confectionery, condiments and stimulants.
Class 60.—Wines and brandies.
Class 61.—Syrups and liqueurs, various spirits, industrial alcohols.
Class 62.—Miscellaneous beverages.

GROUP XI.—MINING —METALLURGY.

- Class 63.*—Mine, ore and quarry working.
Class 64.—Heavy metallurgy.
Class 65.—Light metallurgy.

GROUP XII.—DECORATION AND FURNISHING OF PUBLIC BUILDINGS AND PRIVATE HOUSES.

- Class 66.*—Fixed decoration of Public buildings and private houses.
Class 67.—Stained window glass.
Class 68.—Painted wall papers.
Class 69.—Cheap furniture and costly furniture.
Class 70.—Carpeting, tapestry and other furnishing stuffs.
Class 71.—Movable decoration and upholstery work.
Class 72.—Ceramic ware.
Class 73.—Crystal and glass wares.
Class 74.—Heating and ventilating apparatus and methods.
Class 75.—Apparatus and methods for non-electric lighting.

GROUP XIII.—YARNS.—TEXTILE FABRICS.—CLOTHING.

- Class 76.*—Plant and methods connected with spinning and ropemaking.
Class 77.—Plant and methods used in weaving.
Class 78.—Plant and methods for bleaching, dyeing, printing and sizing textile fabrics, through their different stages.
Class 79.—Plant and methods for sewing and making up clothing.
Class 80.—Cotton yarns and fabrics.
Class 81.—Yarns and fabrics of linen, hemp, etc. Ropemaker's wares.
Class 82.—Woollen yarns and fabrics.
Class 83.—Silk and textiles of silk.
Class 84.—Lace, embroideries and trimmings.
Class 85.—Men's, women's and children's clothing: making up and sewing trades.
Class 86.—Various trades in the clothing line.

GROUP XIV.—CHEMICAL INDUSTRY.

- Class 87.*—Chemical arts and pharmacy.
Class 88.—Paper making.
Class 89.—Hides and skins.
Class 90.—Perfumery.
Class 91.—Tobaccos.